Goal-directed and undirected self-talk: Exploring a new perspective for the study of athletes’ self-talk

Alexander T. Latinjak, Nikos Zourbanos, Víctor López-Ros, Antonis Hatzigeorgiadis

PII: S1469-0292(14)00075-2
DOI: 10.1016/j.psychsport.2014.05.007
Reference: PSYSPO 895

To appear in: Psychology of Sport & Exercise

Received Date: 19 September 2013
Revised Date: 7 May 2014
Accepted Date: 26 May 2014


This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

©2014. This article is made available under the CC-BY-NC-ND 4.0 license https://creativecommons.org/licenses/by-nc-nd/4.0/


The published source for this article is available here: https://www.sciencedirect.com/science/article/pii/S1469029214000752
Goal-directed and undirected self-talk: Exploring a new perspective for the study of athletes’ self-talk

Alexander T. Latinjak\textsuperscript{1}, Nikos Zourbanos\textsuperscript{2}, Víctor López-Ros\textsuperscript{1} and Antonis Hatzigeorgiadis\textsuperscript{2}

\textsuperscript{1}Universitat de Girona, Catalonia, Spain
\textsuperscript{2}University of Thessaly, Greece

Author Note

Alexander T. Latinjak (Corresponding Author), School of Health and Sport Sciences (EUSES), Universitat de Girona, c/ Francesc Macià 65, 17190 Salt-Girona, Catalonia, Spain. E-mail: alexander.latinjak@cadscrits.udg.edu. Phone: 0034 680863365

Nikos Zourbanos, Department of Physiological Education and Sport Science, University of Thessaly, Karies, 42100 Trikala, Greece. E-mail: nzourba@pe.uth.gr. Phone: 0030 6947695094

Víctor López-Ros, Faculty of Education and Psychology, Universitat de Girona, c/ Francesc Macià 65, 17190 Salt-Girona, Catalonia, Spain. E-mail: victor.lopez@udg.edu. Phone: 0034 696775852

Antonis Hatzigeorgiadis, Department of Physiological Education and Sport Science, University of Thessaly, Karies, 42100 Trikala, Greece. E-mail: ahatzi@pe.uth.gr. Phone: 0030 6974009004
Goal-directed and undirected self-talk: Exploring a new perspective for the study of athletes’ self-talk
Abstract

Objectives: The present study aimed to introduce the distinction between goal-directed and undirected thoughts used in general psychology into the automatic self-talk paradigm used in sport psychology. In particular, the purpose of this investigation was to explore the structure and the content of athletes’ goal-directed and undirected self-talk.

Method: Overall, 87 athletes participated in two studies (n = 32 and n = 55, respectively). Qualitative methods were used to analyze data, in the form of text units that were collected retrospectively through thought sampling regarding participants’ self-talk.

Results: The analysis revealed differences in the structure of goal-directed and undirected self-talk. Spontaneous, undirected, self-talk involved mostly explaining past outcomes and foreseeing upcoming events, whereas goal-directed self-talk aimed at attaining control over cognitions and activation for action. Spontaneous self-talk could be classified based on two dimensions: valence (positive – negative) and time perspectives (retrospective, present-related, and anticipatory), whereas goal-directed self-talk could be classified into two different dimensions: activation (activated states, neutral, deactivated states) and time orientation (past, past-present, present-future, and future oriented). Furthermore, differences were also observed with regard to the person at which statement were addressed.

Conclusions: Overall, the findings attempt to explore a new perspective into the study of self-talk, which can help improving the conceptualization, creating new research directions, and enhancing the understanding of self-talk for developing effective interventions.

Keywords: thoughts, cognitive processes, valence, time perspective, activation
Goal-directed and undirected self-talk: Exploring a new perspective for the study of athletes’ self-talk

What people say to themselves engaging in what is called inner speech, inner conversation, or self-talk has traditionally been seen as crucial to how they behave and perform (Ellis, 1994). Hence, it is not surprising that in sport psychology, where the term self-talk has prevailed, a considerable number of studies has focused on exploring athletes’ thought content and self-statements (e.g., Hardy, 2006; Hardy, Gammage, & Hall, 2001; Zourbanos, Hatzigeorgiadis, Chroni, Theodorakis & Papaianou, 2009).

The present investigation sought to extend the self-talk literature in sport and explore a new perspective regarding the conceptualization and taxonomy of self-talk guided by the relevant literature in general psychology.

The conceptualization of thoughts in general psychology

Thoughts and self-talk have received significant research attention in different areas of psychology (e.g., Hart & Albarracin, 2009; Longe et al., 2010; Oppenheim & Dell, 2010). Several categorizations have been proposed to discriminate between different types of thoughts and describe the underlying structure of individuals’ thoughts, such as the distinction between conscious and unconscious thoughts (Dijksterhuis, 2004), or the distinction between operant and respondent thoughts (Klinger, 1977). A categorization that seems recurrent among different lines of research (e.g., Christoff, 2012; Ickes & Cheng, 2011) differentiates between goal-directed thoughts, which are operant in nature, and involuntary and unintentional undirected thoughts.

Christoff, Gordon and Smith (2011) described goal-directed thinking as a mental process deliberately employed towards solving a problem or making progress on a task.

Goal-directed thinking usually occurs during reasoning, problem solving and decision
making. Goal-directed thinking includes, firstly, the representation of current and desired states, and secondly, the establishment of a link between current and desired states through a series of actions which attempt to convert the former to the latter (Unterrainer & Owen, 2006).

With regard to undirected thoughts, Christoff et al. (2011) further distinguished three types: mind-wandering, stimulus-independent thoughts and spontaneous thoughts. According to Klinger (2009), mind-wandering, also termed task-unrelated thoughts (Christoff, 2012), would include any thought that is unrelated to the ongoing task or activity, thus unrelated to the thought eliciting situation (e.g., thinking about a movie while attending a team meeting); stimulus-independent thoughts would be related to the context of the activity, yet unrelated to ongoing stimuli a person receives (e.g., thinking about past strategic mistakes while in a team meeting); and spontaneous thoughts are unintended, non-working, non-instrumental thoughts that come to mind unbidden and effortless, which are however linked to the task or activity at hand and relevant contextual stimuli (e.g., thinking about how a suggestion was appraised by the team manager). In other words, the content of mind-wandering is unrelated to the task at hand or the situation, whereas the content of stimulus independent and spontaneous thoughts are related to the situation; nevertheless, stimulus independent thoughts do not directly relate to ongoing stimuli, whereas spontaneous thoughts are related to ongoing stimuli but they are not goal directed. Altogether, undirected thoughts have been less studied as compared to goal-directed thoughts, despite representing a common phenomenon, occupying about a third of our waking life (Christoff et al., 2011). However, recently, a growing number of researchers have acknowledged that undirected thoughts represent a relevant cognitive phenomenon that influences other cognitive aspects of human life.
such as attention or decision making and the relevant literature has been growing
(Christoff, 2012).

The conceptualization of self-talk in sport psychology

In the sport self-talk literature, Theodorakis, Hatzigeorgiadis and Zourbanos
(2012) distinguished two main research paradigms: one addressing the effects of self-
talk as a cognitive intervention strategy (e.g., Hatzigeorgiadis, Galanis, Zourbanos, &
Theodorakis, 2014; Latinjak, Torregrosa, & Renom, 2010a), and another seeking to
describe and explore athletes’ automatic self-talk (e.g., Hardy, Gammage et al., 2001;
Hatzigeorgiadis, 2002; Zourbanos et al., 2009). The latter focuses implicitly on both
goal-directed and undirected thoughts.

From the early days of self-talk studies in sport, athletes’ automatic self-talk was
divided into positive and negative (e.g., Van Raalte, Brewer, Rivera, & Petitpas, 1994).
Traditionally, self-talk that assists athletes staying appropriately focused in the present,
not dwelling on the past and neither projecting too far in the future, was considered
positive (Weinberg, 1988). In contrast, inappropriate, irrational, and counterproductive
or anxiety provoking statements were labeled as negative self-talk. Hardy, Gammage et
al. (2001) argued that the dimension of self-talk valence (i.e., positive / negative self-
talk) should refer to the content solely and not to the effects of self-talk, because
positively and negatively valenced self-talk can have either facilitating or debilitating
performance effects (Theodorakis et al., 2012). Another differentiation between
different types of self-talk has been made between instructional and motivational self-
talk (Theodorakis, Weinberg, Natsis, Douma, & Kazakas, 2000). Instructional self-talk
refers to statements involving some sort of direction for action, whereas motivational
self-talk, which has been paralleled with positive self-talk, involves positively phrased
statement addressed to oneself, such as psyching-up and confidence building. Finally,
Hardy, Hall and Alexander (2001) explored self-talk and affective states in sport coming up with a two-dimensional structure of self-talk based on valence and intensity (which ranged from extremely demotivational to extremely motivational). However, this two-dimensional structure was not based upon empirical evidence but on the affect grid (Russell, Weiss, & Mendhelson, 1989).

Our understanding regarding the content and structure of self-talk has been advanced through the development of research instruments assessing athletes’ self-talk. Initially, Hatzigeorgiadis and Biddle (2000) developed the Thought Occurrence Questionnaire for Sports (TOQS), which described three types of negative self-talk: worries related to performance, thoughts of escape and task-irrelevant thoughts. More recently, Zourbanos et al. (2009) developed the Automatic Self Talk Questionnaire for Sports (ASTQS), a more inclusive measure of athlete’s self-talk, describing four types of positive self-talk (motivational/ psych-up statements, confidence building statements, instructional/ concentration statements, and anxiety controlling statements); and four types of negative self-talk (worries, statements about disengagement, statements about somatic fatigue, and irrelevant thoughts). Despite being more comprehensive, and including self-talk statements that can be described as goal-directed or undirected, such a distinction has not been made based on the ASTQS.

Most closely related to the goal-directed-undirected distinction, Hardy, Oliver and Tod (2009) differentiated between sport-oriented and sport-unrelated statements. In the matter of sport-orientated statements, Hardy noted an overlap between strategic self-talk (intervention cues) and automatic thoughts and concluded that “such self-statements occur automatically or in a more deliberate manner” (p. 38). In sum, to the best of the authors’ knowledge, a clear distinction between goal-directed and undirected self-talk, has yet to be considered in sport psychology.
The present research

In this study we sought to combine the goal-directed/undirected thoughts framework from general psychology with the automatic self-talk paradigm used in sport psychology. Thus, our main purpose was to explore the structure and content of undirected and goal-directed self-talk in sports.

Following Gross’s (2002) recommendations, emotion concepts were used to help participants recalling a variety of sport situations and the thoughts that occurred to them, or the instructions they gave themselves in such situations. According to Gross, emotions arise in situations that are important to an individual and which can be easily and precisely recalled. Besides, previous research has evidenced that in these emotion-eliciting situations, a high level of cognitive performance is desirable (Richards & Gross, 2000). Therefore, it was considered that the use of emotion-eliciting situations would facilitate athletes recalling and describing with reasonable accuracy their self-talk. The use of emotion eliciting situations was expected to further facilitate the purposes of the study because such situations require some sort of emotional regulation. According to the model of emotion regulation outlined by Gross (2001), self-talk in the form of self-directed instructions is typically used for emotional regulation processes.

With regard to the emotion concepts, the expanded version of the original two-dimensional model of core affect (e.g., Russell, 1980) outlined by Latinjak (2012) was used. The two-dimensional model includes the dimensions of valence and arousal as basic building blocks, and was designed as a conceptual framework for the selection of emotions in research (Ekkekakis, 2008). Further, Latinjak (2012) added a third dimension, namely time perspective, in order to distinguish in these models relevant yet different emotions such as anger and fear. Among the advantages of the dimensional models, Ekkekakis (2008) pointed out their “unparalleled breadth of scope and
parsimony” (p. 141) and subsequently encouraged the use of dimensional models when a wide variety of emotional experiences are to be addressed (Ekkekakis, 2013). Based on the three-dimensional model outlined by Latinjak (2012), a recent study has proposed a selection of emotion concepts which have been shown to represent most emotional experiences in sports (Latinjak, López-Ros, & Font-Lladó, 2014). These concepts were the ones included in this study: sadness, anger, resignation, anxiety, relief, euphoria, confidence and excitement.

Study 1

Method

Participants

Participants were 32 Spanish athletes (18 males, 14 females; $M_{age} = 19.24$ years, $S.D. = 1.51$) recruited from a sport science university who volunteered to take part in the study. They were members of different individual (athletics, $n = 4$; tennis, $n = 5$; competitive dancing, $n = 4$), and team (basketball, $n = 7$; soccer, $n = 12$) sports clubs, and they were at the time competing at national ($n = 27$) and international ($n = 5$) level. The data collection took place during the competitive season.

Procedure

Ethical approval was granted from the first authors’ university ethics board. Athletes were explained that participation is voluntary, that they could withdraw from the study at any time they wished to, and signed the informed consent. All participants received a booklet with written instructions, which was also used to report their responses. The data collection took place in small groups (3-4 athletes). Answering time ranged between 20 and 45 minutes.

In order to explore a variety of situations, participants were asked to recall any sport-related situation during the last month when they experienced sadness, anger,
resignation, anxiety, relief, euphoria, confidence and excitement. Once they
remembered a corresponding sport-related situation, they were asked to write down in
the designated space things they said to themselves or thoughts that occurred to them in
these situations. No instruction was given to the number of responses. The order of the
emotion concepts in the booklet was counterbalanced.

Analysis

The data analysis took place over three stages which followed a preparatory
phase. In the preparatory phase, all statements were recoded into single text units; in the
first stage, the text units were categorized into designated categories with regard to the
goal-directed / undirected self-talk framework; in the second stage, the underlying
dimensions of the text units were explored; and in the third stage, the statements were
categorized by different judges into the dimensions that evolved from the previous
stage. These stages are further described below.

In the preparatory phase, complex answers were broken down into single text
units by the first author. According to Lyons (1981), a text unit is an independent
statement with significance for its own. Moreover, a text unit cannot be further divided
without altering its significance. Once the answers were broken down an independent
judge was asked to screen the pool of text units and eliminate statements that she
perceived as redundant (participant gave twice the exact same response) or
incomprehensible (not being able to read the answer or make sense of its content).

In the first stage, three individuals who were not involved in the study at the
time were asked to contribute to the analysis. They were members of sport science
faculties teaching modules related to research methodology, developmental psychology
and sport psychology; they all had practical experience with qualitative research
methodology. These judges were asked to organize the text units into different types of
self-talk following the process described by Boyatzis (1998). Initially, they were asked to distinguish between goal-directed and undirected statements, in accordance to the definitions offered by Christoff et al. (2011). The judges were also informed that the main difference between the two types of statements was intentionality: goal-directed statements are used intentionally to make progress on a task and undirected statements appear unintentionally. Moreover, the judges were reminded that both types of statements can have either facilitative or debilitative effects for performance. Subsequently, the judges were asked to distinguish all undirected statements into three subcategories, namely, spontaneous statements, mind wandering and stimulus-independent statements based on the definitions provided by Christoff et al (2011). Judges were informed that the content of mind-wandering is unrelated to the context in which the emotion appears. In contrast, the content of spontaneous and stimulus-independent statements is related to the sport context. However, spontaneous statements are related to the emotion-eliciting situation, whereas stimulus-independent statements are unrelated to the emotion-eliciting situation. Sport-unrelated examples were offered to the judges so as to ensure they comprehended the differences among the three types of statements. In both steps, the judges confirmed that the guidelines were clear and understandable. On completion, the inter-rater agreement for the statement type was calculated. In case of disagreement in either step, the three judges convened to discuss until agreement was reached.

In the second stage, three of the authors of this manuscript analyzed, independently and in group sessions, the underlying dimensions of the previously categorized statements. Two of the authors independently identified potential solutions and, subsequently, engaged, together with the other author, in several reflective
discussions. This process of reflection and debate between the researchers was repeated until agreement was reached.

Finally, in the third stage two different independent judges, also members of sport science faculties with expertise on qualitative analysis, and the first author categorized all text units into the dimensions that evolved from the previous stage. The raters were explained the meaning of each dimension identified in the previous stage and were presented with examples to better understand the concepts. The inter-rater agreement in this case was calculated separately for each identified dimensions. Again, in case of disagreement in either case, the first author and the two judges convened to discuss until agreement was reached.

Results and Discussion

No participant reported problems understanding what was required and recalling relevant information. All reported statements were listed as text units by the first author. After removing redundant and incomprehensible responses, 474 statements were analyzed.

Stage 1: Statement-type analysis

Firstly, the group of three judges categorized the statements into goal-directed and undirected statements (Inter-rater agreement = 87%). The results evidenced that participants reported mainly undirected statements (n = 415) and very few goal-directed statements (n = 2). However, the judges identified that some statements could be interpreted as either goal-directed or undirected statements (n = 57). For example, statements such as “We are the best” or “Let’s go” were considered as likely to be either, intentional, goal-directed statements or, unintentional, spontaneous statements.

With regard to this overlap, Klinger (2009) noted that spontaneous and goal-directed thoughts often feature the same content. In addition, Hardy, Gammage et al. (2001)
found a similar overlap and noticed that some self-statements may occur automatically
or in a more deliberate manner. Due to the lack of goal-directed statements, we could
not further analyze the content and structure of goal-directed self-talk in this study.
Therefore, those statements categorized as goal-directed were excluded from further
analysis. The judges recommended keeping statements which were interpreted as either
goal-directed or undirected for the next stages, so as not to lose any information which
could be potentially relevant.

Secondly, the judges categorized the undirected statements \( n = 472 \) into
spontaneous statements, mind-wandering and stimulus-independent statements. Inter-
rater agreement was 99\% and the results evidenced that the participants’ undirected
statements were mainly spontaneous \( n = 466 \) and seldom stimulus-independent \( n = 5 \)
or mind-wandering \( n = 1 \). Consequently, it was only possible to further analyze the
structure and content of spontaneous statements.

Stage 2: The structure of spontaneous statements

The 466 statements identified as spontaneous were further analyzed by the three
authors for exploring the structure of these statements. The analysis revealed a two-
dimensional structure (Figure 1). In particular, participants’ answers were found to vary
in terms of valence, ranging from positive to negative, and in terms of time perspective,
ranging from anticipatory to retrospective. Considering that the valence dimension is
well researched in self-talk literature (e.g., Hardy, Hall et al., 2001; Hardy, 2006;
Zourbanos et al., 2009), we focused this section on time perspective.

Based on the results, time perspective is related to the statements referent (i.e.,
the events a statement refers to). There are two important concerns that should be raised
concerning this newly described dimension: time perspective does not relate to verbal
tense and to the events that trigger the cognitive process. Firstly, verbal tempus and time
perspective in certain instances coincide, whereas in others they do not. For instance, in
the case of an athlete saying “I lost my chance” after missing a penalty kick, time and
tense coincides, as the statement is expressed in past tense and relates to a past event. In
contrast, in the case of an athlete saying “I prepared well for the game” just before the
beginning of the game, the use of past tense does not coincide with the time perspective,
as this relates to the upcoming event.

Secondly, the events that trigger a certain cognitive process are not necessarily
the statements’ referents (e.g., a statement such as “I could win the match” could be
triggered by winning a decisive point). In this sense, based on the contextualized nature
of time perspective, it was sometimes difficult, even impossible, to reach inter-rater
agreement for some statements (e.g., “the other one is afraid” was one of those
statements impossible to categorize as either anticipatory or retrospective).

To the best of our knowledge, the time perspective dimension has not been
considered in sport self-talk literature yet. However, the perspective of time has largely
been debated by philosophers (e.g., Mead, 1936) and psychologists (e.g., Flaherty &
Fine, 2001). Specifically, in cognitive psychology some thoughts have been classified
as future-directed thoughts (for a review see, Aspinwall, 2005). However, when
discussing future-oriented thoughts psychologists usually refer to planning, goal-setting,
daydreams, aspirations, hopes, worries, predictions and expectations, whilst many of the
anticipatory statements forwarded by the participants in this study referred to a future
more in the sense of Mead: “the future is now, on the cutting edge of the present”
(Flaherty & Fine, 2001). Although past research has provided evidence regarding
antecedents and consequences of self-talk in sport (Hardy et al., 2009; Theodorakis et
al., 2012), studies have not taken into consideration the distinction between anticipatory
and retrospective self-talk. To confirm or reconsider conclusions drawn from past
research, future research should inquire separately into the factors which influence anticipatory and retrospective self-talk, and into their cognitive, motivational, behavioural and affective consequences.

Stage 3: The content of spontaneous statements

To further explore the content of spontaneous self-talk, two judges and the first author categorized all 466 spontaneous statements in terms of valence and time perspective. In this stage, the inter-rater agreement was calculated in two steps. First, the three judges classified all text units in terms of valence: positive if the content of the statement was positive for the athlete (e.g., “I play good”); negative if the content of the statement was negative for the athlete (e.g., “I play bad”); and neutral if the content of the statement was (n)either good (n)or bad (e.g., “there are people watching”). Second, the three judges classified all text units in terms of time perspective: anticipatory if the content of the statement referred to something in the future (e.g., the next point); retrospective if the content of the statement referred to something in the past (e.g., the last point); and neither anticipatory nor retrospective if the content of the statement referred to (n)either future (n)or past. However, in regard to this last step, based on the suggestion of the first author and the two judges, they further distinguished those statements classified as neither anticipatory nor retrospective into present related statements if they referred to an ongoing task (e.g., “I am playing well”) or contextual statements if they referred to the sport, the self or others in general (e.g., “this sport is very tough”). Consequently, there were four categories for time perspective. In regard to inter-rater agreement, we calculated the percentage of text units with agreement in valence and the percentage of text units with agreement in time perspective. Inter-rater agreement was 89% for valence and 77% for time perspective. These levels of agreement and disagreement evidence to a reasonable degree the difficulty to
categorize thought content, specifically for time perspective. After discussing among the 
three judges and reaching consent, the text units were categorized as follows: for 
valence, 221 statements were characterized as positive, 222 as negative and 12 as 
neither positive nor negative (11 statements could not be categorized in terms of 
valence); for time perspective, 195 statements were characterized as anticipatory, 197 as 
retrospective, and 53 as neither anticipatory nor retrospective (21 statements could not 
be categorized in terms of time perspective).

Lastly, spontaneous statements which were earlier classified in terms of both 
valence and time perspectives were grouped interactively. Regarding retrospective-
negative statements \((n = 98)\), some resembled internal-controlled attributions of failure 
(e.g., “I played bad” or “We lost because of my fault”) and others resembled external-
uncontrolled attributions of failure (e.g., “The referee made a mistake” or “I was 
unlucky”). In regard to retrospective-positive statements \((n = 87)\), similarly, some 
statements resembled internal-controlled attributions of success (e.g., “I played well” or 
“We won because of me”) and others resembled external-uncontrolled attributions of 
success (e.g., “I was lucky to win” or “The opponent missed”). Moreover, only five 
retrospective statements were classified as neither positive nor negative, because they 
could not be classified as neither or they could classify as either (e.g., “It is over”).

Regarding anticipatory-negative statements \((n = 102)\), negative predictions (e.g., 
“We will lose because of me” or “Others will be disappointed with me”) and 
amotivation-related statements (e.g., “I don’t want to play” or “I don’t care anymore”) 
were identified. In regard to anticipatory-positive statements \((n = 83)\), similarly, 
positive predictions (e.g., “I will succeed” or “I can change the game”) and motivation-
related statements (e.g., “I want to play” or “Pick me”) were identified. Moreover, only
six anticipatory statements were classified as neither positive nor negative (e.g., “I don’t know what will happen”).

Regarding present-related and contextual statements, a total of 53 statements were classified neither anticipatory nor retrospective. Among them there were 38 positive and 15 negative. Those statements were further subdivided into present-related statements and contextual statements. The former referred to ongoing events and current feelings and the latter to the self, to others and the sport in general. Finally, present-related-positive statements (e.g., “I feel the energy”), present-related-negative statements (e.g., “I feel bad”), contextual-positive statements (e.g., “I am the best”) and contextual-negative statements (e.g., “I am a loser”) were observed. There were no present-related or contextual statements classified as neither positive nor negative.

With regard to the statements’ content, links between self-talk categories described in earlier works (e.g., Zourbanos et al., 2009) and spontaneous statements in this study can be identified. For example, some of the statements classified as positive and anticipatory (e.g., “I can do it”) resemble items from the confidence subscale of the ASTQS. Similarly, some negative statements such as “we will lose because of me” or “I want to quit” resemble items from the negative worry and disengagement subscales of the ASTQS. Moreover, other spontaneous self-talk categories that emerged in this study could be directly linked to several significant research areas in sport psychology, such as motivation and attribution theory. These links further support the importance of spontaneous self-talk in the context of sport.

Conclusions

Overall, this study attempted to explore the structure and content of athletes’ self-talk with regard to the goal-directed / undirected distinction (Christoff et al., 2011). Following Gross’s (2002) recommendations, emotion-eliciting situations were used to
facilitate participants’ recalling of self-talk. The use of emotion eliciting situation was
expected to further facilitate the purposes of the study because such situations require
some sort of emotional regulation. According to the model of emotion regulation
outlined by Gross (2001), self-talk in the form of self-directed instructions are typically
used for emotional regulation processes. Nevertheless, participants focused their replies
on undirected self-talk, thus making it impossible to analyze goal-directed self-talk. A
possible reason might be that goal-directed self-talk involves the reaction to undirected
self-talk that occurs automatically in emotion elicited situations. Therefore, such
statements occur temporally before goal-directed self-talk, which involve ‘reacting’ to
the emotional condition and the intuitively generated undirected statements. As this is
only a speculation further research is warranted to explore why this may have happened.

Notwithstanding, the results of the present study provide a valuable insight in the
undirected self-talk athletes reported. The findings revealed that athletes undirected self-
talk is almost exclusively spontaneous, rather than mind-wandering or stimulus-
independent. Furthermore, the analysis supported a two-dimensional interactional
perspective involving valence and time-perspective. The results provide encouraging
evidence for further exploring the goal-directed/undirected distinction in athletes’ self-
talk. Given the lack of appropriate data in this study to investigate goal-directed self-
talk, a second study was designed, using alternative strategies, to surface and
subsequently explore the content and structure of athletes’ goal-directed self-talk.

Study 2

Since the data from the first study allowed us only to explore the structure and
content of undirected self-talk, a second study was conducted aiming specifically to
explore athletes’ goal-directed self-talk, thus fulfilling the original purpose of the
investigation. In the self-talk literature, the deliberate use of self-talk has been studied
mostly through the experimental paradigm which examines the performance effects of
self-talk as an intervention strategy. Strategic self-talk has been used within this
literature to serve a variety of purposes; provide direction for action, such as technical
or kinesthetic, to motivate athletes through psyching-up and confidence building, or to
regulate emotional states, such as anxiety. A meta-analysis has supported that these
interventions have been effective in facilitating learning and enhancing sport
performance (Hatzigeorgiadis, Zourbanos, Galanis, & Theodorakis, 2011). However,
few studies have attempted to inquire into the use of goal-directed self-talk for
performance-enhancement purposes from the automatic self-talk paradigm (Hardy, Hall,
& Hardy, 2005). Thus, this second study was particularly aimed to address the
weakness of the previous study and enrich the limited evidence regarding non-
experimentally induced goal-directed self-talk among athletes.

The rational and the methodology in Study 2 were similar to those of Study 1. However, there was a need to target specifically goal-directed self-talk. As goal-directed self-talk is by definition instrumental in nature (Christoff et al., 2011), that is, used to make progress on a task, solve a problem, or serve other specific purposes, the question had to focus on what athletes say to themselves to achieve certain goals or outcomes. At the same time it was desirable to minimize reports of undirected self-talk. The use of the emotion eliciting situations places more emphasis on an additional (to performance or outcome goals) type of relevant self-talk, specifically self-talk to regulate the experienced emotions. Therefore it was decided that the stem introducing the question in this second study should have two goal-directed prompts: performance goals and emotional control.

Method

Participants
Participants were 55 Spanish athletes (45 males, 10 females; \(M_{age} = 19.73\) years, \(D.S. = 2.10\)) recruited from a sport science university who volunteered to participate to the study. They were members of different individual (athletics, \(n = 6\); tennis, \(n = 7\); swimming, \(n = 11\)), and team (basketball, \(n = 12\); soccer, \(n = 19\)) sports clubs, and they were at the time competing at national (\(n = 48\)) and international (\(n = 7\)) level. All participants from Study 2 were different from those in Study 1. The data collection took place during the competitive season.

**Procedures**

Procedures were the same as in Study 1. Again, ethical approval was granted from the first authors’ university ethics board and the participants signed the informed consent. All participants received a booklet with written instructions, which was also used to report their responses. The data collection took place in small groups (3-4 athletes). Answering time ranged between 20 and 45 minutes.

In order to explore a variety of situations, participants were asked to recall any sport-related situation during the last month when they experienced sadness, anger, resignation, anxiety, relief, euphoria, confidence and excitement. Consequently, they were asked to write down what they told themselves so as to improve their performance or to control their emotional responses in these situations. This instruction was more specific compared to the one used in the first study (to write down things they said to themselves or thoughts that occurred to them) in that it focused particularly on what athletes told themselves specifically towards a goal (improve performance or control emotions), thus limiting the possibility for non-goal-directed self-talk to be reported.

Moreover, since it is likely that goal-directed self-talk does not appear in all emotion-eliciting situations (e.g., an athlete may say nothing to him/herself if everything goes perfect and the he/she feels euphoria), participants were instructed not to provide any
answers if they could not recall any relevant self-statements. The order of the emotion concepts in the booklet was counterbalanced.

Analysis

The data analysis followed the same steps as in Study 1. In the preparatory phase, complex answers were broken down into single text units by the first author. Subsequently, an independent judge was asked to screen the pool of text units and eliminate statements that she perceived as redundant or incomprehensible.

In the first stage, three individuals who were not involved in the study at the time were asked to distinguish between goal-directed and undirected statements, in accordance to the definitions offered by Christoff et al. (2011). The judges were members of sport science faculties teaching modules related to research methodology, developmental psychology and sport psychology; they all had practical experience with qualitative research methodology. They received the same information as in Study 1 and, again, they confirmed that the corresponding guidelines were clear and understandable. On completion, the inter-rater agreement for the statement type was calculated. In case of disagreement, the three judges convened to discuss until agreement was reached.

In the second stage, three of the authors of this manuscript analyzed, independently and in group sessions, the underlying dimensions of the previously categorized statements. Two of the authors independently identified potential solutions and, subsequently, engaged, together with the other author, in several reflective discussions. This process of reflection and debate between the researchers was repeated until agreement was reached.

Finally, in the third stage two different independent judges, also members of sport science faculties with expertise on qualitative analysis, and the first author
categorized all text units into the dimensions that evolved from the previous stage. The raters were explained the meaning of each identified dimension and were presented with examples to better understand the concepts. The inter-rater agreement for the content of self-talk was calculated separately for each identified dimensions. Again, in case of disagreement in either case, the first author and the two judges convened to discuss until agreement was reached.

**Results and Discussion**

No participant reported problems to recall situations for any emotion. After removing redundant and incomprehensible responses, 1171 text units were analyzed.

**Stage 1: Statement-type analysis**

Firstly, the three judges assessed the statements in regard to the goal-directed and undirected distinction (Inter-rater agreement = 99%). The vast majority of text units were classified as goal-directed statements (n = 1164) and only few as undirected statements (n = 7), which supported the manipulation of the question that was asked to participants. The few undirected statements (e.g., “I don’t want to play”) were excluded from further analyses, because the structure and content of undirected statements was already assessed in Study 1.

**Stage 2: The structure of goal-directed statements**

The 1164 text units identified as goal-directed were further analyzed for exploring the structure of these statements. The analysis revealed a two-dimensional structure (Figure 2). The statements were organized in a two-dimensional grid based on time-orientation and activation. In terms of time orientation, the three authors who took part in the data analysis at this stage agreed that the goal-directed text units could be placed on a time-continuum that varied from clearly past-oriented to clearly future-oriented with two in-between intervals (past-present oriented and present-future
oriented). Since those four points seem to be overlapping, concise indications had been elaborated to facilitate the subsequent categorization. First, statements should have been classified as *past-oriented* if they aim at dealing with cognitive reactions to outcomes that lie in the past (e.g., “It’s not your fault”). Second, statements should have been classified as past-present oriented (i.e., *on the brick between past and present*) if they aim at dealing with affective states which started in the past and endured till the time the statement was made (e.g., “Don’t be sad”). Third, statements should have been classified as present-future oriented (i.e., *on the brick between present and future*) if they are thought to be accompanied by, relatively, enduring changes in behavior (e.g., “Control the ball”) and affective states (e.g., “Let’s go!”). Finally, statements should have been classified as *future-oriented* if they aim at focusing on positive outcome of events that lie in the future (e.g., “You will win”).

*Activation* differentiated self-talk which referred to activated states and deactivated states. Regarding activation, some statements aimed at controlling or creating affective states. Some of those affective states could be classified as *deactivated* states (e.g., sadness) and others as *activated* states (e.g., anger). Consequently, statements aiming at controlling or creating activated states (e.g., “Don’t be angry” and “Be strong”, for controlling and creating states, respectively) and statements which aimed at controlling or creating deactivated states (e.g., “Don’t be sad” and “Calm down”, for controlling and creating states, respectively) were identified. Moreover, statements were classified as *neutral in terms of activation* when the content was unrelated to activation (e.g., “Control the ball”). It should be noticed that in this study a valence dimension was not included, because, by definition, all goal-directed statements are meant to be facilitative.

*Stage 3: The content of goal-directed statements*
To confirm the structure and explore the content of goal-directed self-talk as a function of the identified dimensions, the 1164 goal-directed self-talk units were categorized in terms of time-orientation and activation by the first author and the two judges. They were explained the categories that emerged of the previous stage. Inter-rater agreement in the classification of text units was 88% for time-orientation and 90% for activation. In regard to the latter, a relatively high percentage of inter-rater agreement indicates that the aforementioned indications have helped the judges to overcome potential confusions caused by the apparently overlapping categories; thus the differentiation was considered meaningful. After the three judges reached consent, goal-directed statements which were earlier classified in terms of both time-orientation and activation were grouped interactively into seven types of statements: past-oriented, dealing with cognitive reactions ($n = 43$), past/present-oriented, controlling activated states ($n = 39$), past/present-oriented, controlling deactivated states ($n = 67$), present/future-oriented, creating activated states ($n = 223$), present/future-oriented, creating deactivated states ($n = 127$), present/future-oriented, regulating behavior ($n = 376$), and future-oriented, focusing on positive predictions ($n = 289$).

*Past-oriented statements dealing with cognitive reactions.* Almost all statements included in this category accompanied negative emotional experiences such as sadness or anger (e.g., “Not everything can go the way you want to” or “Nothing happened”). However, some statements accompanied positive emotional experiences such as euphoria or relieve (e.g., “You are no Michael Jordan” or “Even you won today, you have also been the loser many times”). In both general and sport psychology, 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). Psychological methods using similar mechanisms, such as re-attributional...
training, have been shown to be effective in changing athletes’ attributions and
increasing self-efficacy in following tasks (Allen, Jones, & Sheffield, 2010). To the best
of the authors’ knowledge, such type of goal-directed self-talk has not been previously
considered in the automatic self-talk paradigm.

Past/present-oriented statements controlling activated states. Most statements
included in this category accompanied negative-activated emotional experiences such as
anger and anxiety (e.g., “Don’t be afraid” or “Don’t suffer”). Nevertheless, few
statements also accompanied positive-activated emotional experiences such as euphoria
or excitement (e.g., “Don’t go too far” or “Don’t let the emotion get in your way”).
Altogether, most statements included into this category referred to awareness of a –
potentially – detrimental state. This awareness was considered by some the first step in
attaining emotional control (Barrett, Gross, Christenson, & Benvenuto, 2001; Ravizza,
2001). Accordingly, this self-awareness has been identified as a fundamental skill for
athletes and as an important antecedent of effective self-regulation and success (Vealey,
2007). In regard to previous taxonomies used in the automatic self-talk paradigm, this
type of goal-directed self-talk would fit in the anxiety control scale of the ASTQS
(Zourbanos et al., 2009) which contains items such as don’t get upset or no stress.

Past/present-oriented statements controlling deactivated states. Statements in
this category were very similar to those of the aforementioned one, however opposed in
activation. Most statements accompanied negative-deactivated emotional experiences,
such as sadness or resignation (e.g., “Don’t give up or “Don’t be sad”) and some
accompanied positive-deactivated emotional experiences such as relieve or confidence
(e.g., “Don’t relax” or “Don’t lower the rhythm”). However, as opposed to the previous
category, such type of goal-directed self-talk has not been previously considered in the
automatic self-talk paradigm.
Present/future-oriented statements creating activated states. According to our results these statements do not necessarily relate to certain types of emotions and aim at promoting, exclusively, positive-activated states (e.g., “Continue!” or “Give a 100%”). In the sport psychology literature this type of self-talk has been traditionally called motivational self-talk (e.g., Theodorakis et al., 2000). Experimental research has supported the positive effects of motivational cue words on sport performance (Hatzigeorgiadis et al., 2014) and performance-related outcomes (Kolovelonis, Goudas, & Dermitsakia, 2011). With regard to previous taxonomies used in the automatic self-talk paradigm, this type of goal-directed self-talk would fit in the psych up scale of the ASTQS (Zourbanos et al., 2009) which contains items such as let’s go or give 100%.

Present/future-oriented statements creating deactivated states. These statements accompanied activated emotional experiences, such as anxiety, anger, excitement and euphoria, and aim at promoting, exclusively, positive-deactivated states (e.g., “Calm Down” or “Patience”). With regard to the effects of these statements, cue words such as relaxed or calmly were perceived by athletes as anxiety reducing and showed beneficial effects on variables such as performance, cognitive interference, and cognitive anxiety (Hatzigeorgiadis, Zourbanos, & Theodorakis, 2007). However, the effects of deactivating cue-words have received much less research attention compared to the activating cues discussed in the previous category. With regard to previous taxonomies used in the automatic self-talk paradigm, this type of goal-directed self-talk would fit in the anxiety control scale of the ASTQS (Zourbanos et al., 2009) which contains items such as relax or calm down. Consequently, these results suggest that the anxiety control scale of the ASTQS contains both Past/present-oriented statements controlling activated states and Present/future-oriented statements creating deactivated states.
Present/future-oriented statements regulating behavior. Statements included in this category seem to be unrelated to specific emotions and varied from general cognitive control (e.g., “Concentrate” or “Pay attention”) to task-specific statements (e.g., “Pass the ball” or “Defense”). In the sport psychology literature this type of statements have been called instructional self-talk, and have proven effective in facilitating learning and enhancing performance (e.g., Zourbanos, Hatzigeorgiadis, Bardas, & Theodorakis, 2013). With regard to previous taxonomies used in the automatic self-talk paradigm, this type of goal-directed self-talk would fit in the instruction scale of the ASTQS (Zourbanos et al., 2009) which contains items such as focus on your technique or concentrate.

Future-oriented statements focusing on positive predictions. Statements included in this category referred to reinforcing self-efficacy (e.g., “You will succeed” or “Everything is going to be fine”), self-esteem (e.g., “Believe in yourself” or “You are good”) and motivational orientation (e.g., “Show them how good you are” or “Score another goal”). In the literature, self-confidence and self-efficacy (e.g., Short & Ross-Stewart, 2009), as well as confidence cue words, (e.g., Hatzigeorgiadis et al., 2009) have been related with performance enhancement and well-being. In regard to previous taxonomies used in the automatic self-talk paradigm, this type of goal-directed self-talk would fit in the confidence scale of the ASTQS (Zourbanos et al., 2009) which contains items such as I believe in me or I can make it.

A final observation worthy of mentioning was made concerning participants’ answers in the two studies. In particular, whilst most statements in Study 1 were written in the first person (77%), in Study 2 more instructions were written in second person (50%) than in first (26%; the rest of the statements had none). These second person self-statements phenomenon has received special attention in psychology literature, where it
has been called fragmented self-talk (for more details see, Zell, Warriner, & Albarracin, 2012). This is something that should be further explored regarding athletes self-talk. Interestingly, considering in addition the results of the first study, goal-directed self-talk was largely revealed when a more restrictive research question was posed asking participants to report what they say to themselves to achieve certain goals or outcomes. As previously postulated, goal-directed self-talk may involve the reaction to undirected self-talk that occur spontaneously in emotion-elicited situations. This proposition requires further attention, as it is possible that automatic goal-directed self-talk may occur when there is a reason (spontaneous, evaluative self-talk), in contrast to strategic goal-directed self-talk which is planned/pre-determined.

Altogether, we managed to describe seven main categories of goal-oriented statements and place them in a two-dimensional cluster. With regard to the study of goal-directed self-talk in sport psychology, the present results suggest that the structure of intentionally used self-statements goes far beyond the distinction between instructional and motivational self-talk. Consequently, future studies should inquire into the effects of those different types of goal-directed self-talk on performance and performance-related outcomes.

**General Discussion**

The purpose of this study was to apply the distinction between goal-directed and undirected thoughts, established in general psychology, in the sport self-talk literature. Ultimately, two studies were conducted: the first explored the structure and content of spontaneous statements, a subtype of undirected self-talk, and the second explored the structure and content of goal-directed self-talk. On the structural level, two different two-dimensional structures were identified to offer simplistic representations of the respective phenomena. Spontaneous statements varied in terms of valence and time-
perspective, whereas goal-directed statements varied in terms of the time-orientation and activation. Expectedly, differences were found in the content of participants’ self-talk. Spontaneous statements were mostly describing, evaluating and explaining past outcomes, and made predictions concerning upcoming events. Disparately, goal-directed statements involved changing appraisals and affective states and promoting positive affective states, task instructions and positive predictions.

In relation to previous studies on the structure and content of self-talk in sport psychology, the present findings encourage a series of general comparisons. Alongside previous research (e.g., Hardy, Hall et al., 2001) we agree that valence seems to be a relevant self-talk dimension, but only for spontaneous self-talk. Many of the participants’ spontaneous statements matched or were similar to those accommodated in the positive and negative self-talk scales of the ASTQS (Zourbanos et al., 2009), whereas goal-directed statements only matched items from the positive ASTQS scales. Several self-talk statements that emerged in this study do not fit in previously identified self-talk categories. However, this is not surprising given that previous studies were conducted on a contextual level (Hardy, Gammage, et al., 2001; Hatziegeorgiadis & Biddle, 2000; Zourbanos et al., 2009) whereas our study examined self-talk in specific situations.

Another dimension that emerged for both goal-directed and undirected self-talk involved the frame of time. Two different terms were employed to reflect the time dimension in the two studies. With regard to spontaneous self-talk, time-perspective discriminated between anticipatory, present-related, contextual and retrospective statements based on their referent. In other words, statements were classified and accordingly termed based on whether they referred to something that happened in the past, or is happening at the time, or is expected to happen in the future. The term time-
perspective has also been used to discriminate between anticipatory and retrospective emotions (Latinjak, 2012). With regard to goal-directed statements, the term time-orientation was employed to reflect the purpose or the function of the direction provided by the statement. Accordingly, the statements were described as past, past-present, present-future, or future oriented, depending on whether the statements were directed towards (a) cognitions about events that lie in the past, (b) affective states that emerged at some point in the past and endure until the present, (c) the formation of cognitive or affective states that appear at the moment and endure until some point in the future, or (d) expectations about the future.

Despite the relative difficulty of categorizing self-talk into the dimensions of time perspective, the identification of the time perspective (per se) is of considerable value and can provide guidance for future research. Even though the frame of time has not received particular research attention in the sport self-talk literature, an interest in the time perspective of athletes’ self-talk can be identified from the early days of self-talk research in sport. Weinberg (1988) identified that positive self-talk helps keep the athlete’s focus of attention in the present, not on past errors or the distant future. The beneficial effects of present-related attentional focus have also received indirect empirical support. For example, concentrating on what currently doing is among the potential functions of self-talk (Functions of Self-Talk Questionnaire; Theodorakis, Hatzigeorgiadis, & Chroni, 2008). Similarly, focusing on what needs to be accomplished is among the instructions athletes give to themselves (ASTQS; Zourbanos et al., 2009). Moreover, using self-talk to focus on the present is among the potential aspects of self-talk (ODP Soccer Self-Talk Practices Questionnaire; Burton, Gillham, & Glenn, 2011). Lastly in two experimental studies, Latinjak, Torregrosa and Renom (2010b, 2011) classified tennis players’ automatic thoughts into present-related
execution-thoughts and past or future-related outcome-thoughts. Generally, their results indicated that the former were more beneficial for performance than the latter.

Altogether, these studies support further efforts to inquire into the time-perspective of athletes’ self-talk. Overall, in this investigation, the time dimension appears to be effective in explaining differences in both goal-directed and undirected self-talk. As this is a newly explored dimension into the self-talk literature further research is warranted to establish its integrity.

As a whole, the goal-directed/undirected framework seems to efficiently accommodate findings from the sport self-talk literature. In addition, new perspectives regarding the structure of athletes’ automatic self-talk were explored. In line with Hardy’s (2006) considerations about the importance of precise definitions of concepts in social sciences, the distinction raised in this study could enhance our understanding of athletes’ self-talk and eventually help improving the operational definition of self-talk in sport. A more comprehensive definition could eventually contain the distinction of goal-directed and undirected self-talk as an integral feature of automatic self-talk, but also identify the distinction between the automatic and the strategic use of goal-directed self-talk.

Several aspects of this investigation require particular consideration as they reflect potential limitations. First, with regard to the thought sampling method, following the recommendations of Gross (2002), it was decided to use emotion concepts to identify a series of different situations in sport. Generally, it appears from the volume of obtained data that the use of emotion concepts helped participants recalling different relevant sport situations and their self-talk in those situations. However, it could be argued that asking participants to recall only emotionally relevant situations, as opposed to common or routine situations, may have restricted the content of undirected and goal-
directed self-talk and may explain why they mostly reported spontaneous self-talk and few instances of stimulus-independent thoughts and mind-wandering. Thus, this decision may have limited the breadth of answers and thus the content of reported self-talk. Having said that, it is also likely that this type of thoughts is prevalent in sport, and in particular during competition. Therefore, the exploration of unrelated thoughts and mind-wandering needs to be further researched in sport.

Another decision that had to be taken involved the specific emotion concepts that would be used for the emotion-eliciting situations. Eight emotion concepts which have been shown to represent a wide range of emotion experiences in a multidimensional fashion (Latinjak et al., 2014) were chosen. The restricted number of emotions used may have also limited the potential answers in volume of self-talk. However, Ekkekakis (2013) recommends the dimensional approaches for studies interested in a wide range of emotions. Furthermore, not all possible emotions could be used, as such a list would possibly detract participants’ attention and would be very demanding and tiring for them to consider.

The time range of one month was chosen because it was estimated long enough so that all eight emotions could have been experienced at least once. Thinking aloud techniques employed during competition or thought listing techniques employed immediately after competition were not considered at this stage of research because the overall aim was to assess self-talk in a wide range of situations. It seems probable that the variety of emotion-eliciting situations would be narrower during one competition and wider during several training sessions and competitions in a month. Further, a larger range of time was considered meaningless because time alters the athletes’ memory significantly (Ayhan & Isiksal, 2004).
In line with these methodological considerations, the thought sampling method that was used was considered a more formal method of introspection (Boring, 1953). Introspection methodologies have been traditionally seen as a mean to conduct preliminary surveys (Lashey, 1923). Consequently, future studies should opt for different methodologies, for example thinking aloud routines (Ericsson & Simon, 1993), which will allow for verification of the findings of the present study, and possibly a more in-depth insight. Evidently, there are several shortcomings related to thought sampling procedures in general (Nisbett, & Wilson, 1977) and, inevitably, in this study in particular. However, the volume of the raw data, and the fact that the data concur in content with evidence from previous studies regarding the content of self-talk (e.g., Hardy et al., 2001; Zourbanos et al., 2009), strengthen our confidence and provide indirect support for the integrity of the thought sampling procedure.

Second, the present findings are exploratory. The two-dimensional structure that emerged in both studies could lack specificity, or a different structure could constitute a simpler or more useful model. As already mentioned, both structures were presented to provide a simplistic representation of the athletes’ self-statements. A broader research scope could be used to further advance our knowledge about self-talk, and to address the limitations of this study. In this study the statements were analyzed based on their content, for which reason the judges were at times unable to categorize some statements as undirected or goal-directed. An analysis of self-talk from a pragmatic perspective would take into consideration the functions, the intentions and the context of language, besides its content (e.g., Levinson, 1983). Participants’ evaluation of the researchers’ ratings and classifications was not received due to the size of the sample that was targeted for the purposes of this study. Such a procedure would have allowed to categorize the questionable statements in Study 1, but also to increase the
trustworthiness and credibility of our results (Antonini-Phillipe, Sagar, Huguet, Paquet, & Jowett, 2011). However, a post-hoc focus groups with 8 participants provided supportive evidence for the interpretations that were made. Moreover, one might take into account that this was the first study conducted to explore differences between goal-directed and undirected self-talk in sport. Moreover, opting for a relatively large number of participants representing a variety of sports and levels, made such feedback procedures impractical.

Evidently, a lot remain to be further discussed regarding the structure and the nature of the self-talk dimensions in sport, as these emerged from this study but also from the relevant sport literature.

Conclusions

The investigation attempted to explore an innovative perspective into the study of self-talk in sport psychology. The present findings may eventually have a significant impact on the understanding of self-talk with important implication for the theoretical, research, and applied levels. From a theoretical standpoint, the findings introduce the distinction between goal-directed and spontaneous self-talk and yield a new direction for the conceptualization and operationalization of self-talk through the identification of taxonomies that have not been previously considered in the sport literature, namely activation and time-perspective.

Elaborating on these perspectives can help enhancing our understanding and provide more accurate and comprehensive definitions of the self-talk phenomenon in sport. Research wise, the present findings create new paths for extending the self-talk literature. Future research could further explore the identified dimensions of time-perspective and activation, looking into activating and de-activating effects of anticipatory and retrospective self-talk, shed more light into the unexplored mind-
wandering and stimulus-independent self-talk, and investigate temporal patterns regarding the occurrence of undirected and goal-directed self-talk. Finally, at the applied level the more comprehensive understanding of self-talk will help developing more effective interventions taking under consideration the nature of self-talk in terms of direction (undirected/goal directed), but also the time and activation perspectives in relation to situational and individual needs. Overall, we believe that the present investigation provides valuable and promising evidence for the development of the self-talk literature and encourages further research towards the identified research directions.
References


Latinjak, A. T., Torregrosa, M., & Renom, J. (2010a). El papel de la exigencia de la tarea en la aplicación del auto-habla y su efecto en tenistas de ocio [The role of...
task demands in applying self-talk and its effect on leisure tennis players].

*Revista de Psicología del Deporte, 19*(2), 187-201.


Footnotes

1 Eight of the participants (two males and two females from Study 1; three males and one female from Study 2; $M_{age} = 20.63$ years, $S.D. = 1.69$) were contacted and formed a post-hoc focus group to discuss the degree to which the results of the study reflected their perspectives. Participants of this focus group were first asked to recall the situations and the answers they provided. Upon recall, they were informed about the purpose, the procedures, and the results of this study. Subsequently, they were asked to evaluate with regard to their perceptions and their answers (a) the relevance of categorizing self-talk as goal-directed and undirected, and (b) the adequacy of the identified sub-dimensions to describe self-talk in sport settings, with particular emphasis on their perceptions regarding the time perspective. Lastly, participants were asked to make any further comments on the results of this study. Participants of the focus group supported the difference between undirected and goal-directed self-talk, and acknowledged the relevance of the sub-dimensions that were identified. Furthermore, participants agreed on the existence of a time perspective in their self-talk, ie. that they talk to themselves with reference to past events, mostly in an evaluative way, but also with regard to future situations. With regard to time perspective in undirected self-talk, the participants argued that “the distinction between future, present and past-related thoughts is most important since it denotes weather your attention is on the task or not”. They further specified that “future-related thoughts are appropriate, especially but not exclusively, when they are positive prior to competition. Present-related thoughts, either positive or negative, are appropriate right before and during the competition. Lastly, past-related thoughts are necessary when they appear after competition to learn from past experiences”. Concerning time perspective in goal-directed self-talk, the participants of the focus group debated about the effects of past/present-oriented and
present/future-oriented self-instructions. They suggested that “most of the time we use past/present-related instructions such as don’t be angry but they don’t help us at all because we only focus on being angry”. Disparately, they explained that “present/future-oriented self-talk would be more helpful because it focuses on how one should feel or what one should think about”. In regard to past-oriented and future-oriented self-instructions, they assumed that they can have “a bad effect on performance because they distract you from what you are doing”. However, “at some point they can help you because they give self-confidence”. Finally, they argued that beyond the dimensions discovered in this study, “it is important to measure the intensity of one’s undirected thoughts and the belief one has in his goal-directed instructions”. They argued that “some thoughts are so intense that you can’t take them out of your mind” and that “sometime you tell yourself something but you don’t really belief it”. Overall, this focus group provided support the findings of the present study and suggested additional directions for future research.
Figure 1. A simplistic representation of spontaneous statements based on two dimensions (valence and time-perspective) and six categories (examples for each category are indicated in parenthesis).

Figure 2. A simplistic representation of goal-oriented statements based on two dimensions (time-orientation and activation) and seven categories (examples for each category are indicated in parenthesis).
<table>
<thead>
<tr>
<th>Anticipatory Time-Perspective</th>
<th>Negative Anticipation (I don’t want to / I can’t do it)</th>
<th>Positive Anticipation (I want to start / This will be my game)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present-related / Contextual Time-Perspective</td>
<td>Negative and Present-related (I am losing)</td>
<td>Positive and present-related (I feel great)</td>
</tr>
<tr>
<td></td>
<td>Negative and Contextual (I am too bad)</td>
<td>Positive and contextual (I am the best)</td>
</tr>
<tr>
<td>Retrospective Time-Perspective</td>
<td>Negative Retrospective (I was unlucky / I played awful)</td>
<td>Positive Retrospective (The other missed / I deserved it)</td>
</tr>
</tbody>
</table>

Negative Valance | Positive Valance
• There were differences between spontaneous self-talk and goal-directed self-talk.
• Spontaneous self-talk was structured in terms of valance and time perspective
• Goal-directed self-talk was structured in terms of activation and time-orientation