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Elite Soccer Coaches Use of Psychological Techniques

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Abstract

The purpose of the current study was to investigate soccer coaches' use of psychological techniques for their own performance. In depth semi-structured interviews were conducted with 13 elite coaches, from Portuguese premier league clubs, to examine and describe their use of imagery, goal-setting, self-talk and relaxation. Participants mentioned employing psychological techniques more in conjunction with competition than training. Self-talk and imagery tended to be cited more frequently than goal setting and relaxation. Furthermore, results of this study provided information about the content and functions of each psychological technique. Implications of the results are discussed and future research and practical recommendations are made.

Keywords: qualitative study, coaches' perceptions, self-talk, imagery, goal setting, relaxation

1. Introduction

It is widely accepted that coaches recognize the importance of psychological preparation of their athletes and teams (Gould, Flett, & Bean, 2009; Leffingwell et al., 2005; Martin, 2005). Nevertheless, sometimes they forget to prepare themselves (Bloom, Durand-Bush, & Salmela, 1997). According to Bloom, Durand-Bush, and Salmela (1997), in the earlier stages of coaches' careers, the primary concern is preparing athletes for competition. However, as they gain experience they recognize the importance of spending as much time, if not more, preparing themselves.

The social and economic framework of elite soccer exposes the coaches to high psychological pressure. Elite soccer coaches are usually subjected to constant public exposure of their decisions, permanent demand of sports outcomes and unpredictability of the competition, among other factors. According to Gould, Greenleaf, Guinan, and Chung (2002), coaches are often required to deal with difficult situations (e.g., selection, tactics, team and athlete performance – related issues, decision making) while also ensuring that their own psychological and emotional states remain optimal. Regarding psychological skills training (PST), Buceta (1998), revealed that the coach has a double function, stimulating interpersonal skills that positively influence the psychological preparation of their athletes, and regulating personal skills to optimize their own psychological state. According to Thelwell, Weston, Greenlees, and Hutchings (2008a), the coach could well be labeled a performer, however what is not known is the degree to which coaches uses PST to enable them to perform.

The objective of PST is to assist sport participants to achieve performance success and personal well-being (Vealey, 2007). In PST it is possible to distinguish between psychological skills and psychological techniques (Vealey, 1988; Vealey, 2007). PST consists of a systematic use of psychological techniques (e.g., goal setting, self-talk, imagery and relaxation) in order to develop and enhance psychological skills (e.g., stress management, self-confidence and concentration) (Burton & Raedeke, 2008; Vealey, 2007).

Goal setting, relaxation, imagery and self-talk are the psychological techniques most referred to in literature as powerful tools to enhance the development of psychological skills and are usually developed in a combined process during PST programs (Andersen, 2000; McCarthy et al., 2010; Vealey, 2007).

Imagery, or the mental creation or re-creation of sensory experiences in the mind, is the most widely studied technique in the mental training literature (Morris, Spittle, & Watt, 2005; Vealey, 2007). Researchers have found positive effects of imagery on performance enhancement (Evans, Jones, & Mullen, 2004; Kossert, & Munroe-Chandler, 2007) and other psychological variables such as confidence (Callow, Hardy, & Hall, 2001;

Hale & Whitehouse, 1998), motivation (Martin & Hall, 1995), attentional control (Calmels, Berthoumieux, & d'Arripe-Longueville, 2004), and coping with anxiety (Evans, Jones, & Mullen, 2004).

Another technique popularly used in PST interventions is goal setting. In goal setting, individuals try to achieve a group of behavioural targets previously defined (Brewer, 2009). Goal setting is an extremely powerful technique for enhancing performance (Weinberg, & Gould, 2011). Physical activity goal research (Burton & Naylor, 2002; Burton, Naylor, & Holliday, 2001; Gould, 2006; Hall & Kerr, 2001) supported the effectiveness of goals in the sport domain. In a meta-analysis of sport goal research, Kyllo and Landers (1995) examined 36 studies and found that goal setting have a substantial influence on performance. Burton and Weiss (2008) recent sport goal setting review presented a similar conclusion.

A third mental training technique studied in sport psychology is self-talk. According to Hardy (2006), self-talk should be defined as: "a) verbalizations or statements addressed to the self; b) multidimensional in nature; c) having interpretive elements association with the content of statements employed; d) is somewhat dynamic; and e) serving at least two functions; instructional and motivational" (p. 84). A number of intervention studies reflect the potential benefits of self-talk on sport performance (Hatzigeorgiadis et al., 2011; Johnson et al., 2004; Perkos, Theodorakis, & Chroni, 2002).

Finally, relaxation techniques require the ability to voluntarily decrease the amount of tension in muscles, calm the mind by keeping it productively occupied and decrease autonomic responses (e.g., heart rate, blood pressure) (Brewer, 2009). An extensive review by Greenspan and Feltz (1989) concluded that relaxation is effective in improving performance. Therefore, it is not surprising that many successful athletes use this specific technique to improve performance

Although the previous four key psychological techniques have been extensively examined in athletes, as yet, little is known regarding the extent to which they are used by coaches for their own performance. To our knowledge, we could only identify one study focusing on this specific research topic. Thelwell et al. (2008a) conducted an exploratory investigation with 13 elite-level coaches to examine their use of self-talk, imagery, relaxation, and goal setting. Results indicated a more frequent use and greater number of purposes for using self-talk and imagery than relaxation and goal setting. While the aforementioned study offered a valuable insight into the psychological techniques used by coaches, a more detailed understanding in this area of research is necessary. In particular, on the imagery and self-talk content (what coaches say to themselves and what they imagine), as well as on the type of goals and relaxation strategies that they employed.

Furthermore, the Thelwell et al. (2008a) study employed an elite mixed coach population (e.g., golf, sailing, cricket, gymnastics, rugby, athletics, soccer, field hockey). With Thelwell et al. (2008a) suggesting that psychological techniques used might depend on the type of sport in question, research is necessary within a single-sport population. Elite soccer coaches were chosen for the focus of the study for several reasons. First, elite soccer coaches are the subject of much public interest and media attention in the world. Second, there is a certain degree of "mystique" surrounding the top level soccer coaches and the methods that they utilize in their coaching routines (Potrac, Jones, & Cushion, 2007).

Therefore, the purpose of the current study was to examine and describe the Portuguese elite soccer coaches' use (where, when, what and why) of a group of psychological techniques (self-talk, imagery, goal-setting and relaxation) for their performance.

2. Method

2.1 Participants

A sample of 13 male professional "elite soccer" coaches composed this study. The coaches' age ranged from 43 to 63 years (50.6 ± 5.8 years; mean ± *SD*) and their coaching experience ranged from 10 to 29 years. In accord with the recommendations of Patton (2002), purposive criteria sampling was employed to enhance the potential of "information rich" participants being included. The selection criteria required the coaches that currently work with elite-level athletes' (Hanton, Fletcher, & Coughlan, 2005), to be employed by their respective governing bodies of sport (national squads) or by professional clubs (Thelwell et al., 2008b), and have a minimum of ten years of soccer coaching experience (Bloom, Durand-Bush, & Salmela, 1997; Sedgwick, Côté, & Dowd, 1997).

At the time of the interview, all the participants occupied head coach positions in Portuguese soccer league clubs. Furthermore, all of them had the license required by the Union of European Football Associations (UEFA Pro License) to manage a soccer club in the top level of the nation's league, as well as, in the UEFA Champions league or UEFA European league.

2.2 The Interview and Procedures

The participants were all initially contacted by telephone, informed of the nature of the investigation, and asked about if they would be willing to participate (all 13 coaches who were contacted agreed to participate). A time was arranged to meet each participant at a venue of his choosing. Nine of the interviews took place in the coaches' offices before or after a training session and the remaining interviews were conducted in a hotel room (n=1) and coaches' homes (n=3). The interviews were conducted face-to-face with all of the participants by the first author who had previous experience of working as a professional assistant coach in Portuguese premier league clubs and was therefore familiar with the experiences and terminology used by the participants. Interviews were digitally recorded and lasted between 60 to 90 minutes.

An interview-guide approach ensured that the same questions were asked of all participants while still allowing the interview to use probes as necessary (Patton, 2002). The guide was based on previous studies that have investigated psychological techniques used by athletes (Munroe-Chandler et al., 2000; Munroe-Chandler, Hall, & Weinberg, 2004; Hardy, Gammage, & Hall 2001) and developed in accordance with the specific purposes of the current investigation. The interview guide consisted of six sections. The first section contained demographic information and other introductory comments. The second until the fifth section followed similar procedures but were focused on each psychological technique (i.e., section 2- self-talk; section 3- imagery; section 4- goal setting; and section 5- relaxation). Prior to each of these sections, participants were briefly clarified about the meaning of each psychological technique. Then, coaches were asked about the importance assigned to each psychological technique and its use. Areas of questioning were generated around topics such as, "where" (e.g., "Where do you use [psychological technique]?"), "when" (e.g., "In training, when do you use [psychological technique]?"), "what" (e.g., "Provide a description of your images (e.g., what are you seeing, hearing, feeling)?"; "Provide a description of your self-talk) and "why" (e.g., "What are the reasons for your use [psychological technique]?) each psychological technique was employed.

The interview guide was pilot-tested with three professional Portuguese soccer assistant coaches, following which minor refinements to the guide were made. This process also served to improve the interviewer's familiarity with the interview guide and the technical procedures of the interview, as well as to enhance interview skills (Nordin & Cumming, 2005).

2.3 Data Analysis

The data were analysed using hierarchical content data analysis procedures recommended by Patton (2002). The specific procedure adopted in the current study comprised the following steps:

(a) The tapes were initially listened to and then the transcripts were read and reread by the first author until he was fully familiar with the content.

(b) Raw data themes were identified from quotes, characterizing each participant's responses within each area of the interview.

(c) Data were appropriately coded

(e) Both inductive and deductive content analysis was conducted to identify common themes from the lists of raw data obtained. Deductive analysis ensured that answers discussing specific content were related to the question being asked. Once content responses were matched to "appropriate questions", inductive analysis was conducted. First, second and third-order subthemes established were labeled "higher order themes", with the highest themes giving a general description of the experience labeled as "general dimensions".

(f) In order to control individual bias and ensure verifiability of the findings all the data were presented and discussed with another author to act as "devil´s advocate" (Marshall & Rossman, 1995).

(g) To provide an ultimate validity check, the first author checked once more all the findings.

(h) Frequency analysis was conducted to represent the number of each raw data themes citations and the number of coaches that referred each higher-order themes.

3. Results

The inductive-deductive analysis exposed four general dimensions (self-talk, imagery, self-talk and relaxation) emerging from 161 raw data themes mentioned by the elite soccer coaches.

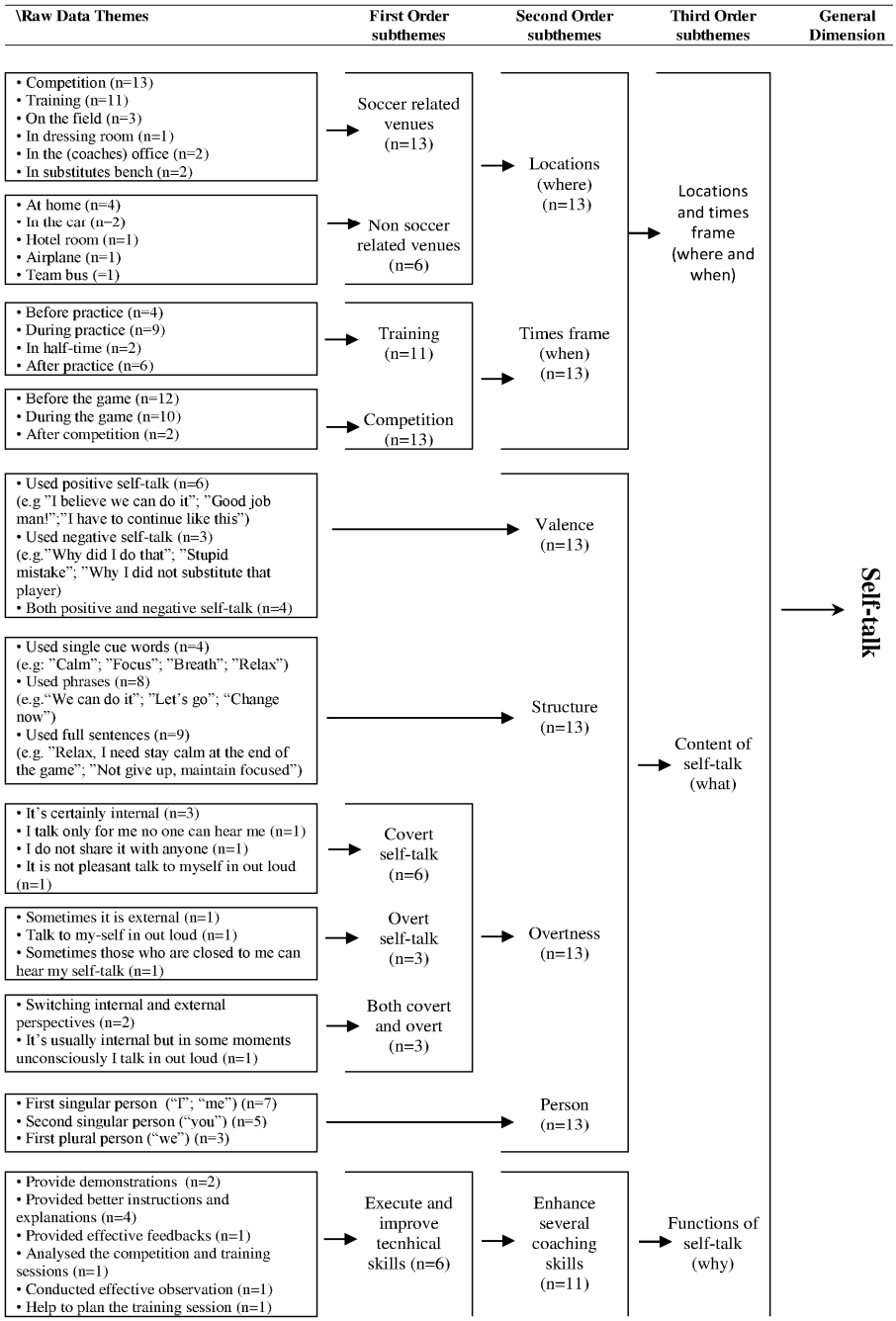
3.1 Self-Talk

The results of the current study showed that all of the participants employ some form of self-talk in their coaching roles. The self-talk dimension shows the coaches' perspective on their use of self-talk, and included 63

raw data themes that emerged into three third-order subthemes: locations and time frame (where and when), content of self-talk (what), and functions of self-talk (why) (see Figure 1).

The first third-order subtheme provides information about the locations and time frame of soccer coaches self-talk. The interviews revealed that soccer coaches employed self-talk at soccer related venues (e.g., "in the field"; "in dressing room"), as well as at non-soccer related venues (e.g., "home"; "car"). Participants also reported using self-talk before, during and after both training and competition environments. In this context, it should be noted that the use of self-talk was predominant before and during the competition setting.

With respect to the second third-order subtheme, content of self-talk, four second-order subthemes emerged: valence, structure, overtness and person. The first second-order subtheme referred to the valence of self-talk that



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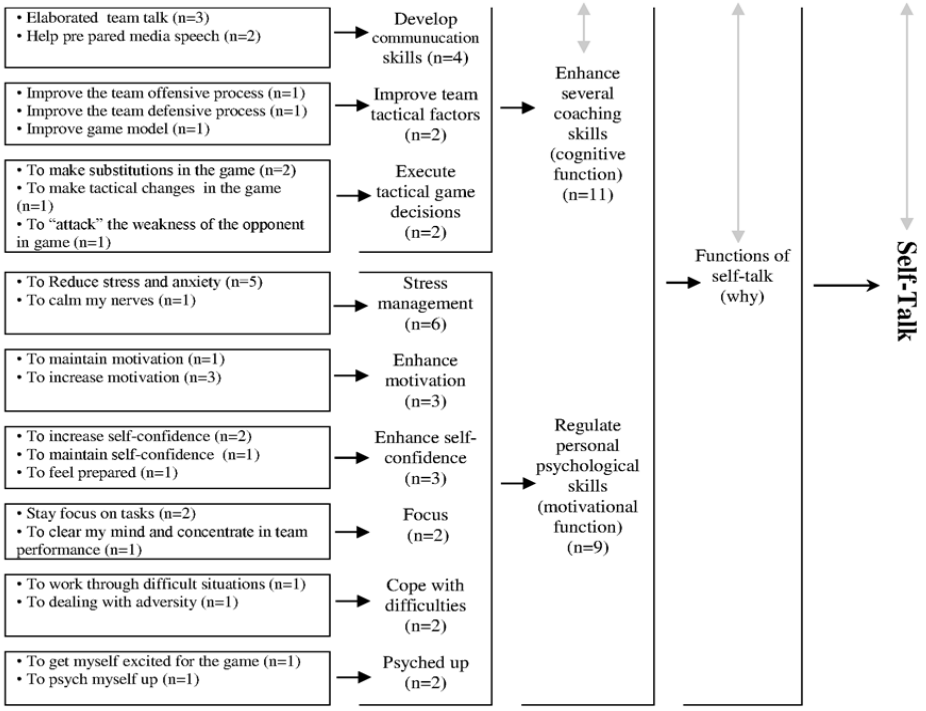


Figure 1. Hierarchical structure of the self-talk general dimension

Note: The number following each raw data theme first and second order subthemes indicates the number of participants who reported them

is anchored with the bi-polar descriptors of positive and negative self-talk. The positive self-talk referred to encouragement or talk that one could be successful and was used by six of the participants. The following quotes provide some examples of positive self-talk used by some of the participants: "I believe we can do it"; "I know who I am and I am one of the best". On the other hand, negative self-talk was self-critical or represented an inability to succeed and was cited by three participants. Negative self-talk used by the soccer coaches is exemplified in the next quotes: "Why did I do that" or "This is too hard". Four of the participants also stated that they used both positive and negative self-talk. The following quote shows this perspective: "I usually use positive self-talk, but sometimes I also use negative…it depends on the situation and the context, but generally I use the positive".

The second second-order subtheme, structure of self-talk, represented the manner in which expert soccer coaches talk to themselves. In this second order-subtheme, participants mentioned employing single cue words (e.g., "calm", "focus" or "breathe"), phrases (e.g., we "can do it", "let's go" or "chance now") and full sentences (e.g., "do not give up, maintain focused on the game").

The overtness second-order subtheme is concerned with how coaches' self-statements are verbalized. Specifically, the overtness dimension related to whether the self-talk was overt (external) or covert (internal). According to three of the participants, self-talk was spoken out loud in a manner that allows another individual to hear what was said (overt). The following expression is quite representative of this overt perspective: "Usually I talk to myself out loud; it is something that comes out naturally of me". On the other hand, six participants employed self-talk using a small voice inside one's head, and so cannot be heard by another individual (covert). Also in this context it should be noted that three of the participants cited used both overt and covert perspectives.

Finally, the last second-order subtheme is referred to the 'person' that soccer coaches talk to themselves. Participants reported talking to themselves in the first-person singular (i.e., I or me), in the second- person (i.e., you), as well as in the first-person plural (i.e., we).

The final third-order subtheme, functions of self-talk, was comprised by the cognitive motivational function of self-talk. The cognitive function of self-talk, related the use of self-talk to enhance several coaching skills. For

example, one of the most frequently cited use of cognitive function of self-talk was to provide effective feedback for the players and team, as illustrated in the following quote: "Many times I use this (self-talk) in order to improve the quality of the feedback that I send to my players and teams. So I use this to provide feedback more effectively".

Several participants also highlighted the use of self-talk in order to optimize their psychological state (motivational function), (e.g., reduce anxiety levels, enhance self-confidence and motivation, to remain focused, to psych up and coping with difficulties). The next quotation is quite representative of this last purpose: "I often talk to myself to overcome some difficulties that I face in my job".

3.2 Imagery

The interviews revealed that ten of the coaches highlighted employing imagery to improve their own performance. When these participants were asked about their use of imagery, 58 raw data themes were identified. This dimension emerged from three third-order subthemes: locations (where and when), content of imagery (what), and functions of imagery (why) (see Figure 2).

Participants of the current study indicated employing imagery in several soccer and non-soccer related venues. Soccer coaches also indicated using imagery more in conjunction with competition than training and more before competition than any other time frame.

The content of soccer coaches' imagery was categorized into the nature of imagery and types of imagery, second order-subthemes.

The nature of imagery consisted of responses concerning positive and negative imagery. Several participants constantly offered descriptions of positive imagery. For example, one coach said:

> Normally before the games I visualize my team having a good performance, to perform tactical movements that we trained, to make great plays and goals…Indeed I imagine a set of great team moments in order to boost my self-confidence to the game.

However, four coaches also expressed using negative imagery. One of them reported that it occurred unintentionally. The following quotation is quite representative of that:

> I don´t use this (negative imagery) consciously, it isn't something that I want to visualize, but sometimes I visualize negative pictures about my tactical decisions. For example, sometimes I imagine that my tactical decisions don't run like I expected during the game

In this context, one of the interviewed coaches raised an interesting perspective regarding their use of negative images. This coach described using negative imagery in their coaching routines to help prevent possible tactical errors. The next comment expresses this perspective:

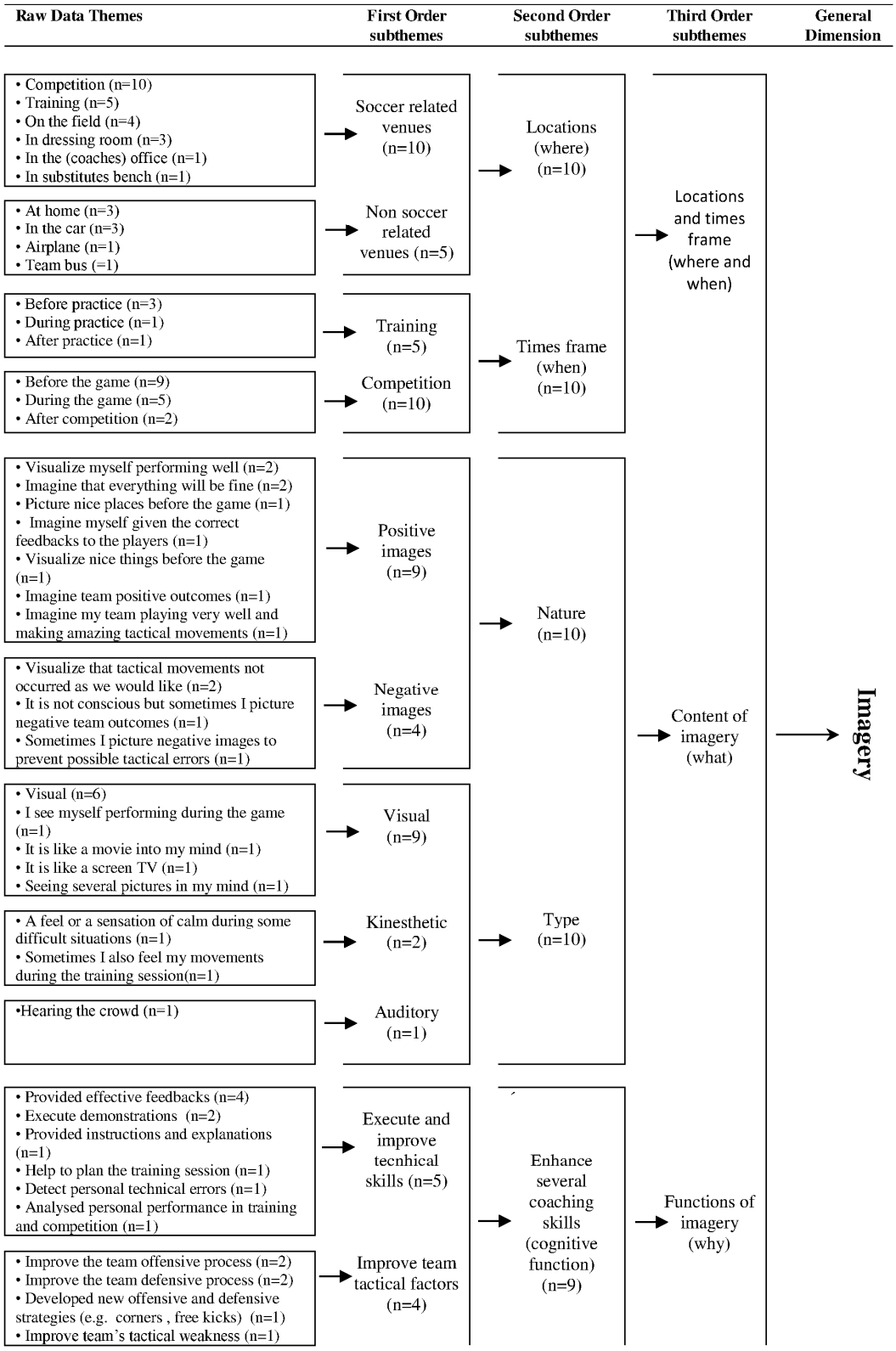
> The negative images help me to anticipate the action and prevent some tactical errors during the game. For example, after an opponent's corner I imagine that they put the ball on the second post and these images serve to rectify some of my players' positions in our defensive zone. Evidently the opposing team is thoroughly studied and most of the possible situations are trained in the week. However the game is unpredictable and sometimes small details of opposing players lead me to place negative images in my head, and like I said, it helps me to reposition some of my players.

Regarding the second-order subtheme, types of imagery, the coaches' images tended to be multisensory, incorporating mainly visual but also kinesthetic and auditory senses. The following quotation is quite representative of the visual imagery: "For me the imagery translates into an internal vision of certain situations…it is like a film that runs inside my head".

The third-order subtheme, function of imagery, refers to why soccer coaches used imagery in their coaching routines. As in the case of self-talk, participants reported using imagery to enhance the performance of several coaching skills (cognitive function) and to optimize their psychological skills (motivational function).

With reference to cognitive function, participants reported using imagery to execute and improve several technical skills, to improve team tactical factors, and to execute tactical game decisions.

Regarding motivational functions, the interviews revealed that imagery was employed by the soccer coaches to manage stress, enhance motivation, self-confidence, to remain focused, to psych up and cope with difficulties.


Raw Data Themes
First Order subthemes
Second Order subthemes
Third Order subthemes
General Dimension
• Competition (n=10)
• Training (n=5)
• On the field (n=4)
• In dressing room (n=3)
• In the (coaches) office (n=1)
• In substitutes bench (n=1)
Soccer related venues (n=10)
Locations (where) (n=10)
• At home (n=3)
• In the car (n=3)
• Airplane (n=1)
• Team bus (=1)
Non soccer related venues (n=5)
Locations and times frame (where and when)
• Before practice (n=3)
• During practice (n=1)
• After practice (n=1)
Training (n=5)
Times frame (when) (n=10)
• Before the game (n=9)
• During the game (n=5)
• After competition (n=2)
Competition (n=10)
• Visualize myself performing well (n=2)
• Imagine that everything will be fine (n=2)
• Picture nice places before the game (n=1)
• Imagine myself given the correct feedbacks to the players (n=1)
• Visualize nice things before the game (n=1)
• Imagine team positive outcomes (n=1)
• Imagine my team playing very well and making amazing tactical movements (n=1)
Positive images (n=9)
Nature (n=10)
• Visualize that tactical movements not occurred as we would like (n=2)
• It is not conscious but sometimes I picture negative team outcomes (n=1)
• Sometimes I picture negative images to prevent possible tactical errors (n=1)
Negative images (n=4)
Content of imagery (what)
Imagery
• Visual (n=6)
• I see myself performing during the game (n=1)
• It is like a movie into my mind (n=1)
• It is like a screen TV (n=1)
• Seeing several pictures in my mind (n=1)
Visual (n=9)
• A feel or a sensation of calm during some difficult situations (n=1)
• Sometimes I also feel my movements during the training session(n=1)
Kinesthetic (n=2)
Type (n=10)
•Hearing the crowd (n=1)
Auditory (n=1)
• Provided effective feedbacks (n=4)
• Execute demonstrations (n=2)
• Provided instructions and explanations (n=1)
• Help to plan the training session (n=1)
• Detect personal technical errors (n=1)
• Analysed personal performance in training and competition (n=1)
Execute and improve tecnhical skills (n=5)
Enhance several coaching skills (cognitive function) (n=9)
Functions of imagery (why)
• Improve the team offensive process (n=2)
• Improve the team defensive process (n=2)
• Developed new offensive and defensive strategies (e.g. corners , free kicks) (n=1)
• Improve team's tactical weakness (n=1)
Improve team tactical factors (n=4)

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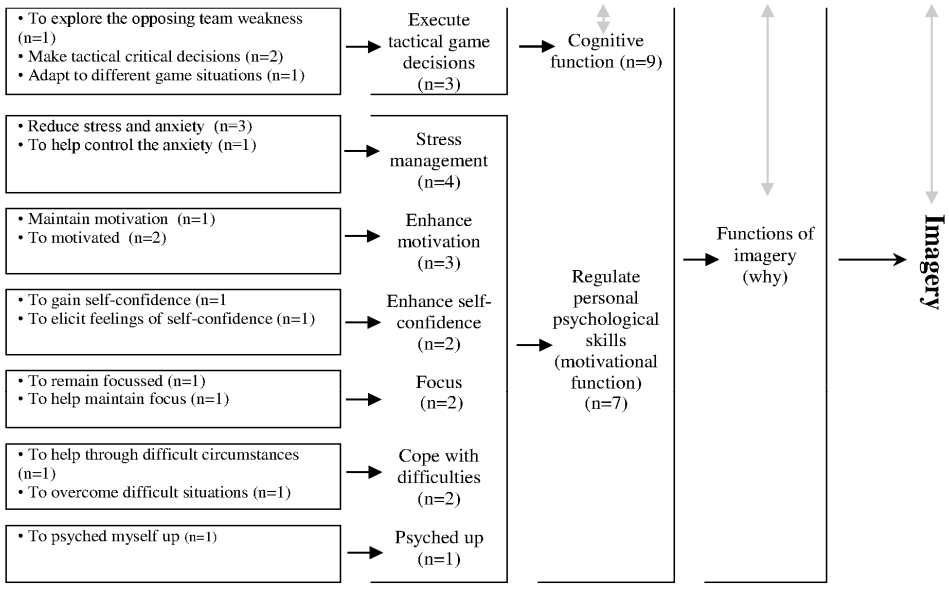

Figure 2. Hierarchical structure of the imagery general dimension

Note: The number following each raw data theme first and second order subthemes indicates the number of participants who reported them

3.3 Goal Setting

When the coaches were asked to discuss the goals they set for themselves, only six of the participants cited its use. The goal setting dimension, included 33 raw data themes that emerged into the following third-order subthemes: locations and time frames (where and when), types of goals (what), and purposes for setting goals (why) (see Figure 3).

The interviews showed that the coaches set more competition than practice goals. In addition the participants expressed setting goals more before the competition than any other time frame.

Although the soccer coaches of the current study employed outcome, performance and process goals in relation to their own coaching goals, the focus was most definitely on performance goals. However, one of the coaches noted that outcome goals are basically out of their control, so their focus was more on what they could control. The following quote depicts this perspective:

> I use outcome goals and performance goals, but I prefer the last rather than the former…and why? Because the performance goals are more dependent on our own effort and work…I like to set goals related to my own performance as coach and goals related with the performance of my team.

With regard to the goal proximity second-order subtheme, coaches reported setting long-, medium-, and short–term goals, although the emphasis was clearly on the short-term goals. The focus on short-term goals tended to be practice to practice and competition to competition, depending on the specific needs of the team, as well as the different moments of the season. The next sentence expresses this perspective:

> Usually, I set long and short goals, but no doubt that the emphasis goes to the short goals. As you know our profession is very unstable and consequently it is not easy to achieve long goals. So, I prefer to set short goals. I like to set goals constantly. Session by session and game by game I set and reformulate personal goals.

The third-order subtheme, goal purpose, describes the reasons for soccer coaches setting personal goals and was abstracted into four second-order subthemes: personal development, team/players development, provide direction and achieve success.

Regarding the first second-order subtheme, personal development, coaches revealed setting goals to improve

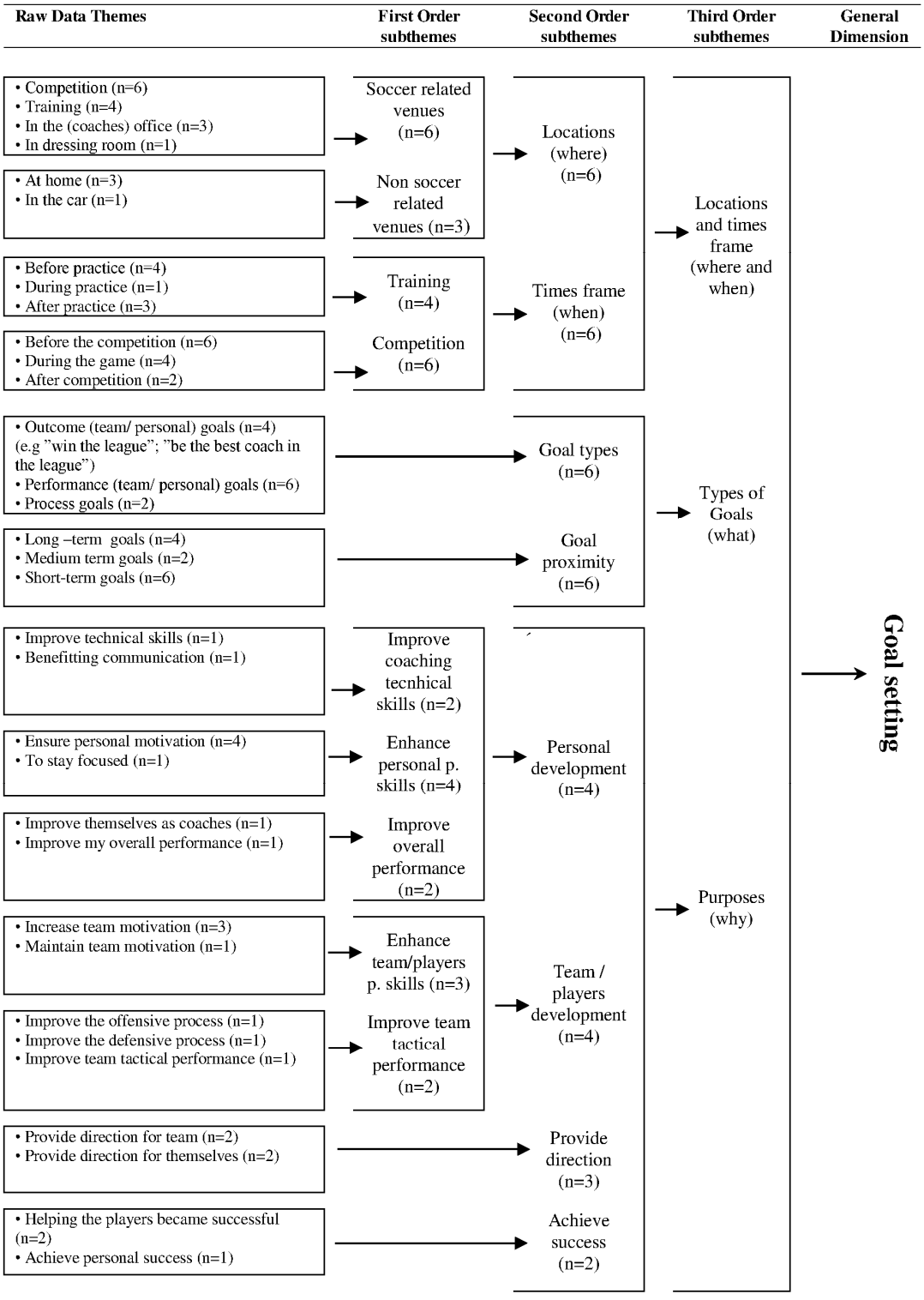

Figure 3. Hierarchical structure of the goal setting general dimension

Note: The number following each raw data theme first and second order subthemes indicates the number of participants who reported them

their technical skills, to enhance several personal psychological skills and to improve their overall performance. With reference to the enhancement of several personal psychological skills, first-order subtheme, four coaches

mentioned employing goal-setting to ensure personal motivation, as illustrated in the next sentence.

> The goals that I establish for myself serve to keep me constantly motivated…the goals serve to remind me where I want to be and what I've done to get here and this gives me the motivation to continue my work

Goal setting was also employed by some coaches to develop their players and teams. In this context, some coaches revealed using setting goals to increase the players and team motivation, and to improve tactical team performance (e.g., improve offensive and defensive process).

Additional purposes for soccer coaches setting personal goals were to provide direction for themselves and their teams, as well as to achieve personal success and help their players to succeed. The latter reason is explained in more detail in the following quote: "I also set personal goals to help my players succeed...help them to go to the national team, to win individual titles, to go to big clubs, because when that happens you are doing good work".

3.4 Relaxation

Relaxation was the least employed technique with only two soccer coaches citing its use. This dimension only contained seven raw data themes abstracted into the following three third-order subthemes: locations and time frame (where and when), types of relaxation strategies, and purposes for using relaxation. Unlike the previous psychological techniques, relaxation was only employed before (n=2) the competition. In addition, the two coaches used relaxation only in the form of breathing exercises (n=2). Results also revealed that relaxation was used by the coaches to stay focused (n=1) and to reduce anxiety levels (n=2). With reference to this last purpose, the following quotation suggests why relaxation is beneficial: "I used exercises for breathing control, to help me to reduce the stress and tension before the game because as you know during the competition period a leader must have a calm and serene image".

4. Discussion

The purpose of the current study was to examine the use of four psychological techniques (i.e., self-talk, imagery, goal-setting and relaxation) by elite soccer coaches for their performance. Globally, participants reported a more frequent use of self-talk and imagery than goal-setting and relaxation. These findings are not surprising because both techniques (self-talk and imagery) "enable individuals to interpret feelings and perceptions, regulate and change their evaluations, and give themselves instructions and reinforcement" (Thelwell et al., 2008a, p. 49).

An interesting finding revealed by the interviews was that the majority of the coaches mentioned using psychological techniques more frequently before the competition and, in general, more in conjunction with competition than practice. This finding can explain how crucial the time prior to competition is for coach performance preparation. Moreover, it should be noted that before the game, and in particular during the warm up of the team, the soccer head coach is not directly involved in any activity and, consequently, he has more opportunities to use psychological techniques to prepare himself for the competition. This is a possible explanation. However it is also very likely that coaches remember more the use of these techniques in crucial situations, as compared to, emotionally speaking, irrelevant situations. For example, it could be possible that coaches often use psychological techniques sitting alone in their office preparing for practice or competition. In regard to this issue, it should be kept in mind that not the actual use of psychological techniques was studied in the current study, but the coaches' perceptions of its use.

During the interviews the participants provided extensive information about their use of self-talk and it was clear that they believed that this psychological technique served valuable roles in their coaching routines.

With regard to the content (what coaches said to themselves), the findings of the present study suggested some potential dimensions for soccer coaches self-talk. They also support previous findings in the athlete self-talk literature. Most of the soccer coaches self-talk was positive and covert, that lends support to Hardy, Hall, and Hardy (2005, Study 2) quantitative study with recreational volleyball players, as well as to Van Raalte et al. (1994) proposal. These last authors suggested that positive self-talk might be more likely to be internalized by the individual than the negative self-talk. Although most of soccer coaches' self-talk is positive and covert it seems clear that in certain circumstances their self-talk were also negative and covert. In line with this finding, several researchers suggested that negative (Hardy, Gammage, & Hall 2001) and covert (Vygotsky, 1986) occurs more in demanding and challenging situations (e.g., highly stressful situations or when under pressure).

Another aspect of the content of soccer coaches' self-talk that emerged in the present study was the structure dimension. Participants reported that they talked to themselves using short phrases and complete sentences with approximately the same frequency. This finding seems to make some intuitive sense. For example, when soccer coaches are providing demonstration, instruction or feedback it may be more efficient to use short phrases. On

the other hand, when they are planning or conduct analyzes and observation it may be more useful to use complete sentences.

Finally the present study extends previous findings regarding the person dimension of the self-talk content. In contrast to the athletes (Hardy, Gammage, & Hall 2001) and exercisers (Gammage, Hardy, & Hall, 2001), participants of the current study tended to talk to themselves not only in the first and second-person singular but also in the first-person plural. One possible explanation for this finding may have been due to the coaches' performance is directly linked to their team performance.

Regarding to the functions of self-talk (why), results revealed that soccer coaches used both motivational and cognitive functions which is consistent with the previous findings in the athletes' self-talk literature (Hardy, Gammage, & Hall 2001). It must be noted that soccer coaches reported using cognitive functions slightly more than motivational ones. By contrast, athletes' self-talk (Hardy, Gammage, & Hall 2001) has been shown to be used most frequently for motivational purposes. One possible explanation for these differences is that athletes usually have already acquired most of the skills and strategies of their sport and consequently they make greater use of motivational self-talk functions. On the other hand, soccer coaches used self-talk not only to maximize their psychological state (motivational functions) but mainly to enhance the performance of several coaching skills (which in turn improve their interventions with players and teams). This finding is not surprising because "the most obvious task of the coach is to help athletes and teams to perform their full potential" (Côté, Salmela, & Russell, 1995, p. 76).

The present study indicated that self-talk was used by the coaches for the development and execution of several coaching skills. Future research should explore both functions in more depth, as well as examine more fully their effectiveness of coach's performance. Data also showed that the motivational function was mentioned less frequently than the cognitive one. However it is important to highlight that the motivational function seems to be relevant for the coach performance and also deserves further investigation.

An additional finding for the motivational function was the larger number of coaches that reported using self-talk to reduce stress and anxiety. The high psychological pressure that the soccer coach is constantly subject (by the media, fans, directors…) may be the basis of this result.

Results of the current study clearly indicate that participants used self-talk in their coaching process. However, what is not known is whether they use self-talk as effectively as possible and this warrants further examination. Therefore, future research should examine the effectiveness of the content, cognitive and motivational self-talk functions on soccer coach performance. Quantitative and experimental studies will certainly provide valuable information for sport psychologists to develop more effective and specific self-talk interventions among soccer coaches.

The current study also provided insight into the content of coaches' images in their coaching routines. Results of our study showed that the coaches' images tend to be more positive rather than negative. Several researches (Powell, 1973; Woolfolk, Parrish, & Murphy, 1985), showed that the use of positive imagery enhances athletes' sport performance. Presumably, the use of positive imagery by soccer coaches can provide a similar benefit (i.e., enhance the performance of the coach / enhance coaching effectiveness). Future research should be conducted to confirm this hypothesis. Although the majority of imagery described by the soccer coaches was positive, it should be noted that the use of negative imagery was also reported by some of the participants. At this context, one coach mentioned that the negative images during the competition can serve to prevent possible bad tactical decisions. Although the athletes' imagery literature revealed that negative imagery can have a damaging influence on performance (Woolfolk, Parrish, & Murphy, 1985), our results suggested that this type of imagery might play an important role in competition coaching routines.

Another interesting aspect of imagery content that emerged in the present study was that the majority of the participants reported using visual imagery more than any other type (e.g., Kinesthetic, auditory). This finding was not surprising, since as Jedlic, Hall, Munroe-Chandler, and Hall (2007) stated, vision is the dominant sense in imagery. Several researches, however have noted the potential importance of kinesthetic imagery (Hall & Erffmeyer, 1993; Mumford & Hall, 1985). In line with this, some of the participants of our study highlighted the use of this type of imagery. While soccer coaches reported making use of visual, kinesthetic and auditory imagery, there is no evidence of its effectiveness in the performance of the coach. Future examination of how these types of imagery might influence the performance of the soccer coach is certainly warranted.

With respect to the functions (why) of imagery, the findings of our analysis seem to suggest that this psychological technique was used by coaches for many of the same (cognitive and motivational) reasons that they use self-talk. Similarly to self-talk, most of the participants expressed using imagery to regulate their

anxiety levels. This finding may be connected with the predominant use of both techniques after competition pointed out by participants. Coaches may experience feelings such as anxiety, nervousness, and doubt immediately prior to competitions, and therefore, may benefit greatly from this specific function of both self-talk and imagery.

In the athletes' imagery (Munroe-Chandler et al., 2000) and self-talk (Hardy, Gammage, & Hall 2001) literature, it was proposed that in order to gain the greatest benefit from their imagery or self-talk interventions, consultants should match the function of imagery/self-talk being used with the desired outcome. For example, if athletes want to improve their self-confidence it would be best for them to make use of motivational mastery imagery or motivational mastery self-talk, respectively. In addition, Hardy, Gammage, and Hall (2001) suggested that greater benefits may be realized if the athlete were to use motivational mastery imagery in combination with motivational mastery self-talk. We believe the same is true for the interventions with soccer coaches. Thus, encouraging soccer coaches to use imagery and self-talk in combination would seem to be a logical approach.

The findings relating to goal setting showed that less than half of the sample to cited its use. A marked reduction was also seen in the number of purposes for which coaches use goal setting compared with self-talk and imagery. Our findings need to be carefully analyzed because the coaches of the current study were only required to discuss the goals that they set for themselves, which meant that there was a limit on the focus on teams and athlete-related goals. Results of our analysis also revealed that the most frequent reasons given for coaches setting personal coaching goals was to provide direction and to increase/maintain personal motivation. Burton and Raedeke (2008) considered these purposes as some of the major mechanisms by which goals operate.

Regarding the type of goals, results revealed that coaches used outcome, performance and process goals. Although cases can be made to focus on one type of goal or another, all three types of goals can be effective in enhancing performance and have a positive effect on behavior (Weinberg & Butt, 2011). Along these lines, Weinberg, Harmison, Rosenkranz, and Hookom (2005) stated that process and performance goals require the development of skills and strategies necessary to achieve outcome measures.

Also in this context, Kingston and Hardy (1997) found that focusing on process goals not only led to enhanced performance, but also improved psychological factors such as concentration, cognitive anxiety control and self-efficacy. It is encouraging to see that soccer coaches are including the three types of goals; however, Kingston and Hardy (1997) noted the best mix of process, performance and outcome goals for maximum effectiveness needs to be determined.

The findings relating to goal setting also revealed that coaches set long-, medium-, and short-term goals. This is a very important procedure because having specific goals through the sports season is one of the most powerful to increase performance (Porter, 2003).

Finally, our findings showed a clear underuse of relaxation techniques. This may be considered a fact for concern, since the literature reported several benefits from relaxation, such as the ability to cope with the pressure of competition, particularly at the highest levels (Hanton, Thomas, & Mellalieu, 2009). A possible explanation for this fact can be assumed by the lack of knowledge of the full range of relaxation-based strategies, as well as by the lack of collaboration with sport psychologists. Although there are a variety of strategies to help subjects to relax (e.g., diaphragmic breathing, progressive muscular relaxation and self-directed relaxation) (Burton & Raedeke, 2008), controlled breathing for relaxation was the only method mentioned by the two coaches that employed relaxation in their routines. This finding was not surprising, because controlled breathing for relaxation is partially a natural innate technique (Caruso, 2004).

Nevertheless, it should be noted that the present study examined the coaches' perceptions and not the actual use of psychological techniques. In this sense, it is possible that coaches use relaxation in some way even they did not report its use consciously.

5. Conclusion

The present study revealed that elite Portuguese soccer coaches had a more frequent use and greater number of reasons for using self-talk and imagery than goal setting. On the other hand, participants mentioned a lesser use of relaxation. Another important finding was that the soccer coaches reported to use the psychological techniques more in conjunction with competition than practice. Moreover, the present study pointed out valuable information about the content and function of self-talk and imagery used by the coaches, as well as the type of goals that they set for themselves.

Due to the lack of studies examining the efficacy of psychological techniques on soccer coaches' performance, it would be inappropriate to draw firm implications from the findings. Nevertheless, we contend that before

examining this issue (i.e., techniques-performance link in the coaches) it is necessary to examine whether psychological techniques use is evident, as well as where, when, why and how these techniques are used. In this sense, the data of the current study provides an important step. Future research should now examine the efficacy of the psychological techniques on soccer coaches' performance.

For practitioners the data of this study may serve as a useful tool for developing more specific and effective psychological interventions. For example, knowing the psychological techniques used by the Portuguese soccer coaches, the sport psychologist might be able to develop more specific interventions for the coaches with whom they work.

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References

Andersen, M. B. (2000). *Doing sport psychology*. Champaign, IL: Human Kinetics.

Bloom, G. A., Durand-Bush, N., & Salmela, J. H. (1997). Pre- and postcompetition routines of expert coaches of team sports. *The Sport Psychologist, 11*(2), 127-141.

Brewer, B. W. (2009). Introduction. In B. W. Brewer (Ed.), *Handbook of sports medicine and science: Sport Psychology* (pp. 1-6). Springfield, MA: Wiley.

Buceta, J. M. (1998). *Psicologia del entrenamiento desportivo* [Psychology of sport training]. Madrid: Editorial Dykinson.

Burton, D., & Naylor, S. (2002). The Jekyll/Hyde nature of goals: Revisiting and updating goal-setting in sport. In T. Horn (Ed.), *Advances in sport psychology* (2nd ed., pp. 459-499). Champaign, IL: Human Kinetics.

Burton, D., Naylor, S., & Holliday, B. (2001). Goal setting in sport: Investigation the goal effectiveness paradox. In R. N. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.), *Handbook of sport psychology* (2nd ed., pp. 497-528). New York: Wiley.

Burton, D., & Raedeke, T. D. (2008). *Sport psychology for coaches*. Champaign, IL: Human Kinetics.

Burton, D., & Weiss, C. L. (2008). The fundamental goal concept: The path to process and performance success. In T. Horn (Ed.), *Advances in sport psychology* (3rd ed., pp. 339-375). Champaign, IL: Human Kinetics.

Callow, N., Hardy, L., & Hall, C. R. (2001). The effects of a motivational general-mastery imagery intervention on the sport confidence of high-level badminton players. *Research Quarterly for Exercise and Sport, 72*(4)**,** 389-400. http://dx.doi.org/10.1080/02701367.2001.10608975

Calmels, C., Berthoumieux, C., & d'Arripe-Longueville, F. (2004). Effects of an imagery training program on selective attention of national softball players. *The Sport Psychologist, 18*(3), 272-296.

Caruso, A. (2004). *Sport psychology basics*. Spring City: Reedswain Publishing.

Côté, J., Salmela, J. H., & Russell, S. J. (1995). The knowledge of high performance gymnastics coaches: Competition and training considerations. *The Sport Psychologist, 9*(1), 76-95.

Evans, L., Jones, L., & Mullen, R. (2004). An imagery intervention during the competitive season with an elite rugby union player. *The Sport Psychologist, 18*(3), 252-271.

Gammage, K. L., Hardy, J., & Hall, C. R. (2001). A description of self-talk in exercise. *Psychology of Sport and Exercise, 2*(4), 233-247. http://dx.doi.org/10.1016/S1469-0292(01)00011-5

Gould, D. (2006). Goal setting for peak performance. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (5th ed., pp. 240-259). Montain View, CA: Mayfield.

Gould, D., Flett, M. R., & Bean, E. (2009). Mental preparation for training and competition. In B. W. Brewer (Ed.), *Handbook of sports medicine and science: Sport psychology* (pp. 53-63). Springfield, MA: Wiley-Blackwell.

Gould, D., Greenleaf, C., Guinan, D., & Chung, Y. (2002). A survey of U.S. Olympic coaches: Variables perceived to have influenced athlete performances and coach effectiveness. *The Sport Psychologist, 16*(3), 229-250.

Greenspan, M. J., & Feltz, D. (1989). Psychological interventions with athletes in competitive situations: A review. *The Sport Psychologist, 3*(3), 219-236.

Hale, B. D., & Whitehouse, A. (1998). The effects of imagery-manipulated appraisal on intensity and direction of competitive anxiety. *The Sport Psychologist, 12*(1), 40-51.

Hall, E. G., & Erffmeyer, S. E. (1983). The effect of visuo-motor behaviour rehearsal with videotaped modelling on free throw accuracy of intercollegiate female basketball players. *Journal of Sport Psychology*, *5,* 343-346.

Hall, H., & Kerr, A. W. (2001). Goal setting in sport and physical activity: Tracing empirical developments and establishing conceptual direction. In G. C. Roberts (Ed.), *Advances in motivation in sport and exercise* (pp. 183-233). Champaign, IL: Human Kinetics.

Hanton, S., Fletcher, D., & Coughlan, G. (2005). Stress in elite sport performers: A comparative study of competitive and organizational stressors. *Journal of Sports Sciences, 23*(10), 1129-1141. http://dx.doi.org/10.1080/02640410500131480

Hanton, S., Thomas, O., & Mellalieu, S. (2009). Management of competitive stress in elite sport. In B. W. Brewer (Ed.), *Handbook of sports medicine and science: Sport Psychology* (pp. 30-42). Springfield, MA: Wiley.

Hardy, J. (2006). Speaking clearly: A critical review of the self-talk literature. *Psychology of Sport and Exercise, 7*(1), 81-97.

Hardy, J., Gammage, K. L., & Hardy, C. R. (2001). A descriptive study of athlete self-talk. *The Sport Psychologist, 15*(3), 306-318.

Hardy, J., Hall, C. R., & Hardy, L. (2005). Quantifying athlete self-talk. *Journal of Sports Sciences, 23*(9), 905-917. http://dx.doi.org/10.1080/02640410500130706

Hatzigeorgiadis, A., Zourbanos, N., Galanis, E., & Theodorakis, Y. (2011). Self-talk and sport performance: A meta-analysis. *Perspectives on Psychological Science, 6*(4), 348-356. http://dx.doi.org/10.1177/1745691611413136

Jedlic, B., Hall, N., Munroe-Chandler, K. J., & Hall, C. (2007). Coaches' encouragement of athletes' imagery use. *Research Quarterly for Exercise and Sport, 78*(4), 351-363. http://dx.doi.org/10.1080/02701367.2007.10599432

Johnson, J. M., Hrycaiko, D. W., Johnson, G. V., & Halas, J. M. (2004). Self-talk and female youth soccer performance. *The Sport Psychologist, 18*(1), 44-59.

Kingston, K., & Hardy, L. (1997). Effects of different types of goals on processes that support performance. *The Sport Psychologist, 11*(3), 277-293.

Kossert, A. L., & Munroe-Chandler, K. (2007). Exercise imagery: A systematic review of the empirical literature. *Journal of Imagery Research in Sport and Physical Activity, 2*(1), 1-32. http://dx.doi.org/10.2202/1932-0191.1015

Kyllo, L. B., & Landers, D. M. (1995). Goal-setting in sport and exercise: A research synthesis to resolve the controversy. *Journal of Sport and Exercise Psychology, 17*(2), 117-137.

Leffingwell, T. R., Durand-Bush, N., Wurzberger, D., & Cada, P. (2005). Psychological assessment. In J. Taylor, & G. Wilson (Eds.), *Applying sport psychology: Four Perspectives* (pp. 85-100). Champaign, IL: Human Kinetics.

McCarthy, P., Jones M., Harwood, C., & Olivier, S. (2010). What do young athletes implicitly understand about psychological skills? *Journal of Clinical Sport Psychology, 4*(2), 158-172.

Marshall, C., & Rossman, G. B. (1995). *Designing qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.

Martin, J. J. (2005). Sport psychology consulting with athletes with disabilities. *Sport and Exercise Psychology Review, 1*(2), 33-39.

Martin, K. A., & Hall, C. R. (1995). Using mental imagery to enhance intrinsic motivation. *Journal of Sport and Exercise Psychology, 17*(1), 54-69.

Morris, T., Spittle, M., & Watt, A. (2005). *Imagery in Sport*. Champaign IL: Human Kinetics.

Munroe-Chandler, K. J., Hall, C. R., & Weinberg, R. S. (2004). A qualitative analysis of the types of goals athletes set in training and competition. *Journal of Sport Behavior, 27*(1), 58-74.

Munroe-Chandler, K. J., Giacobbi, P., Hall, C., & Weinberg, R. (2000). The four w's of imagery use: where,

when, why, and what. *The Sport Psychologist, 14*(2), 119-137.

Mumford, B., & Hall, C. (1985). The effects of internal and external imagery on performing figures in figure skating. *Canadian Journal of Applied Sport Sciences, 10*(4), 171-177.

Nordin, S. M., & Cumming, J. (2005). Professional dancers describe their imagery: where, when, what, why, and how. *The Sport Psychologist, 19*(4), 395-417.

Patton, M. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks: Sage Publications.

Perkos, S., Theodorakis, Y., & Chroni, S. (2002). Enhancing performance and skill acquisition in novice basketball players with instructional self-talk. *The Sport Psychologist, 16*(4), 368-383.

Porter, K. (2003). *The mental athlete: Inner training for peak performance in all sports*. United Kingdom: Human Kinetics.

Potrac, R., Jones, R., & Cushion, C. (2007). Understanding power and the coach's role in professional English soccer: A preliminary investigation of coach behaviour. *Soccer and Society, 8*(1), 33-49. http://dx.doi.org/10.1080/14660970600989509

Powell, G. E. (1973). Negative and positive mental practice in motor skill acquisition. *Perceptual and Motor Skills, 37*(1), 312-312. http://dx.doi.org/10.2466/pms.1973.37.1.312

Sedgwick, A., Côté, J., & Dowd, J. (1997). Confidence building strategies used by Canadian high-level rowing coaches. *Avante, 3*(3), 80-92.

Thelwell, R. C., Weston N. J. V., Greenlees, I. A., & Hutchings, N. V. (2008a). A qualitative exploration of psychological-skills use in coaches. *The Sport Psychologist, 22*(1), 38-53.

Thelwell, R. C., Weston, N. J. V., Greenlees, I. A., & Hutchings, N. V. (2008b). Stressors in elite sport: A coach perspective. *Journal of Sports Sciences, 26*(9), 905-918. http://dx.doi.org/10.1080/02640410801885933

Van Raalte, J. L., Brewer, B. W., Lewis, B. P., Linder, D. E., Wildman, G., & Kozimor, J. (1995). Cork! The effects of positive and negative self-talk on dart throwing performance. *Journal of Sport Behavior, 18*(1), 50-57.

Vealey, R. S. (1988). Future directions in psychological skills training. *The Sport Psychologist, 2*(4), 318-336.

Vealey, R. S. (2007). Mental skills training in sport. In G. Tenenbaum, R. Eklund, & R. Singer (Eds.), *Handbook of sport psychology* (pp. 287-309). New Jersey: Wiley.

Vygotsky, L. S. (1986). *Thought and language* (translated by A. Kozulin). Cambridge, MA: MIT Press.

Weinberg, R., & Butt, J. (2011). Goal setting in sport and exercise: Research to practice**.** In T. Morris, & P. Terry (Eds.), *Sport psychology: Theory, applications and issues* (pp. 213-226). Milton, QLD: Wiley.

Weinberg, R., & Gould, D. (2011). *Foundations of sport and exercise psychology* (5th ed.). Champaign, IL: Human Kinetics.

Weinberg, R. S., Harmison, R. J., Rosenkranz, R., & Hookom, S. (2005). Goal setting. In J. Taylor, & G. Wilson (Eds.), *Applying sport psychology: Four perspectives* (pp. 101-116). Champaign, IL: Human Kinetics.

Woolfolk, R. L., Parrish, M. W., & Murphy, S. M. (1985). The effects of positive and negative imagery on motor skill performance. *Cognitive Therapy and Research, 9*(3), 335-341. http://dx.doi.org/10.1007/BF01183852