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**The mediating role of self-talk on the relationship between perceived  
motivational climate and self-efficacy beliefs in youth football  
players**

by

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## Abstract

Within the sport psychology literature, research on the antecedents and outcomes of self-talk is rather sparse. Among the existing evidence, the role of the coach in shaping athletes' self-talk has been identified, and also the effect of positive self-talk on athletes' self-efficacy has received preliminary support. The purpose of the present study was to combine these two lines of research and explore the relationships between perceptions of motivational climate, athlete's self-talk and self-efficacy beliefs. In particular, the aim of this study was to investigate self-talk as a mediator in the relationship between motivational climate and self-efficacy. The participants were 292 young football players (Mean age 11.63 years; SD 1.55 years). Participants were administered with Automatic Self-Talk Questionnaire for Sport (ASTQS, Zourbanos, Hatzigeorgiadis, Chroni, Theodorakis, & Papaioannou, 2009), Perceived Motivational Climate in Sport Questionnaire-2 (Newton, Duda, & Yin, 2000), and a self-efficacy self-reported measure specifically designed for football (Bray, Balaguer & Duda, 2004). Four mediation models were tested for, where one model was confirmed. Series of regression analysis revealed a partial mediation model where perceived task-involving climate was a significant predictor of athletes' self-efficacy beliefs, mediated by positive self-talk. The predictive ability of perceived task-involving climate with the mediation of positive self-talk suggests that climate created by coach could have an important impact on athletes' self-talk, which in turn impact their self-efficacy levels.

**Key words: self-talk, self-talk content, motivational climate, self-efficacy, social-cognitive theory, significant other, coach, athletes.**

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## INTRODUCTION

Self-talk refers to the verbal dialogue in which athletes interpret their feelings and perceptions, evaluate themselves, and give themselves instructions or reinforcement (Hackfort & Schwenkmezger, 1993). When we talk about self-talk as content of thoughts, we refer to its' valence dimension, namely positive and negative self-talk. Review of the current literature has shown that the research investigating the antecedents of self-talk is relatively sparse (Hardy, 2006; Van Raalte, Conrelius, Hatten, & Brewer, 2000). This is perhaps not surprising given the absence of an established theoretical grounding for self-talk literature (Hardy, 2006). Given the wide-reaching behavioural, motivational, affectual and cognitive consequences of self-talk, it is suggested that a greater understanding of the factors that shape and influence athletes' self-talk is required (Zourbanos, Theodorakis, & Hatzigeorgiadis, 2006). Hardy, Oliver, and Todd (2009) in a conceptual model of self-talk considered, among other antecedents, the role of the coach in shaping athlete's self-talk. Zourbanos, Theodorakis, and Hatzigeorgiadis (2006) in their study showed that social support provided by coaches, in the form of esteem support, mediated the relationship between coaches' supportive behavior and athletes' positive self-talk. In addition, Zourbanos et al. (2008) proposed a social-environmental dimension of antecedents where the role of significant other has been shown to influence athletes' cognitions and behavior. There is a dearth of studies examining the relationship between motivational climate and self-talk; despite that self-talk is at the core of cognitive processes. Overall, little attention has been given to the way coaches' behaviour and statements affect athletes' self-talk. Furthermore, the importance of the outcomes of self-talk has been evident, although most investigated relationship is self-talk-performance. Non-performance outcomes have been receiving recently more attention, within

which one of the important outcomes is considered to be self-efficacy (Bandura, 1997). It is salient to state that, to date in the sport literature, there are no studies examining the mediating role of self-talk on the relationship between perceived motivational climate and athletes' self-efficacy beliefs.

Motivational climate (Ames, 1992) is referred to situational factors and relates to the salience of task-and ego-involving cues in the achievement context. The perception of the motivational climate affects the achievement patterns of individuals through their view of what goals are reinforced in that setting (Treasure, 1997). Research has shown that a perceived task-involving setting is characterized by the athletes' view that the coach does reinforce high effort, cooperation among team members, learning and improvement, and the perceptions that everyone on the team contributes to the team's achievements (Newton & Duda, 1999; Ommundsen, Roberts & Kavussanu, 1998; Seifriz, Duda & Chi, 1992). A perceived ego-involving team climate, in contrast, is marked by athletes' perceiving that the coach punishes their mistakes, fosters rivalry among team members, characterized by interpersonal competition, social comparison, and coach gives much of his or her attention to the most talented athletes on the team. Coaches' behaviours and fostering any of the two climates affects athletes' behavior, perceptions, emotions and cognitions, therefore self-talk. There has been considerable research attention of the effects of different types of motivational climate on affective, cognitive and motivational processes; however, there has not been much research on the motivation climate and self-talk (Treasure, Standage & Lochbaum, 1999; Wailling et al., 1993).

Self-efficacy is grounded in Bandura's (1986) social-cognitive theory. It is defined as a "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997,p.3). These beliefs influence behaviour, affect and selection



of environment, and are influenced by behaviour, affect and environmental events. Review of the current literature has shown that there has been lack of research considering the relevance of self-efficacy theory (Bandura, 1997) with the effectiveness of self-talk (Hardy, 2006). It has been shown that self-talk influences two specific motivational factors, among which is self-efficacy. It is suggested that self-talk may influence self-efficacy (Hardy, 2006) by acting as a form of self-delivered verbal persuasion, and that positive self-talk, for example, might increase self-efficacy, and subsequent effort. Additionally, positive self-talk is promoted as an effective strategy to enhance athletes' self-efficacy. The strength for our study we take from Bandura's (1986) argument that our efficacy beliefs mediate subsequent thought patterns, affective responses, and action and as well that self-efficacy is positively related to positive motivational patterns. Hatzigeorgiadis, Zourbanos, Goltsios, & Theodorakis (2008) study suggests that self-efficacy may be one of the mechanisms explaining the facilitating effects of self-talk. Yet, the relationship of self-talk and self-efficacy has been little investigated.

The motivational climate plays an important role for the sport experience of athletes, as it is said to influence cognition, affect and behaviour (Treasure, 1997; Treasure & Roberts, 1998). Among the motivational keys for athletes' progress and success is their self-efficacy. Appropriate motivational climate is a climate that reinforces athletes' self-efficacy through cognitive and affective means (Treasure & Roberts, 1998). Athletes' cognition in the form of self-talk has recently attracted considerable research attention. Self-talk has been shown to be influenced by factors of the sport environment, but also to influence athletes' efficacy beliefs (Hatzigerogadis et al., 2008; Zourbanos, Theodorakis, & Hatzigeorgiadis, 2006). The purpose of this investigation was to explore the links between these three constructs, namely self-efficacy, motivational climate and self-talk.

Thus, based on the theoretical postulations of Bandura (1997), Ames (1992), a proposition of Zourbanos, Hatzigeorgadis and Theodorakis (2008) for a social-environmental dimension of self-talk antecedents, and the evidence presented above, the present study aimed to examine the mediating role of self-talk on the relationship between perceived motivational climate and athletes' self-efficacy beliefs.

## **LITERATURE REVIEW**

Despite the growing interest in the area of self-talk, this topic has been understudied in the sport psychology research. Although, it is evident that more recently researchers had become interested in exploring its' relationship to sport and performance. Self-talk has been described as automatic thoughts, internal dialogue, and self-statements. First and foremost purpose of this study is to connect the self-talk with two other constructs, namely, motivational climate and self-efficacy. When explaining self-talk and its' antecedents, Zourbanos et al (2008) had proposed a social-environmental dimension, where the role of significant other in shaping athletes' thoughts is evident. Therefore, motivational climate has been proposed to influence athlete's self-talk. Furthermore, research area that has been receiving increasing attention is non-performance outcomes of self-talk. Some of those include anxiety, expectations, attentional control and information processing, but self-efficacy as well. Self-efficacy beliefs are considered to be influenced by athletes' self-talk via verbal persuasion that can include self-statements or social persuasion from significant others. In the following sections we will describe self-talk, its antecedents and outcomes, as well describe motivational climate and self-efficacy more in detail.

### **Self-talk**

#### **Research approaches**

Self-talk refers to those automatic statements reflective of and deliberate techniques (e.g. thought stopping) athletes use to direct, sports-related thinking (Hardy, 2006). In a more detailed definition Hardy (2006) defined self-talk as “verbalizations or statements addressed to the self, multidimensional in nature, having interpretive elements associated with the content of statements employed, is somewhat dynamic and serving at least two functions: instructional and motivational for the athlete” (p. 84). Athletes, however, do not report employing self-talk solely to enhance competitive performance. As reflected by the functions of self-talk (Hardy et al., 2001a,b), self-talk may be used for a variety of reasons such as to build self-confidence, reduce anxiety and enhance skill learning- highly relevant to the practice setting. The key to a cognitive control is self-talk, but the frequency and content of thoughts vary from person to person and situation to situation (Bunker al., 1993). In sport psychology, self-talk (Hardy, Hall, & Hardy, 2005) has been also broadly conceptualized as a “multidimensional phenomenon concerned with athletes’ verbalizations that are addressed to themselves” (p. 905). Yet, Zourbanos, Hatzigeorgiadis, Tsiakaras, Chroni and Theodorakis (2010, p. 782) took into consideration the social influences on self-talk and noted that it can be “malleable to perceptions and interpretations of stimuli from the social environment.”

According to Hatzigeorgiadis and Biddle (2008) there are two different approaches in studying self-talk: self-talk as a content of thoughts and self-talk as a mental strategy. The main research questions within these two approaches will be addressed below.

The first one refers to self-talk as content of thoughts exploring factors that influence and shape athletes’ self-talk content (e.g., Zourbanos et al., 2011). The second approach refers to self-talk as a cognitive strategy focusing on the beneficial effects of self-talk on performance enhancement (e.g. Mallet & Hanrahan, 1997). The first approach refers to self-statements that

athletes addresses to themselves and this research mainly focuses on the frequency, content and occurrence of those thoughts. These research questions have been explored in the field studies, descriptive or correlation studies in order to explore the antecedents of self-talk and to examine the relationship between self-talk and performance. The second research approach investigated the impact of self-talk strategies on performance in order to demonstrate beneficial effects of self-talk.

### *Self-talk as a cognitive strategy*

Experimentally based research, where self-talk has been examined as cognitive strategy, with specific cues being used, has consistently supported the effectiveness of self-talk (Landin & Hebert, 1999). Negative self-talk becomes especially destructive when an athlete evaluates his or her performance and then engages in derogatory self-labeling or self-rating, by using labels such as “loser”, “choke artist”. As stated earlier, self-talk is used as a cognitive strategy to direct and facilitate human performance. From another perspective when examining self-talk within the purpose it serves, being motivational or instructional, Theodorakis, Weinberg, Natsis, Douma and Kazakas (2000) argued that the effects of self-talk on performance might depend on the type of task being performed. Instructional self-talk refers to statements aiming to direct attention and guide action through technical remarks or tactical choices, whereas motivational self-talk refers to statements aiming to increase confidence, regulate effort, and create positive moods (Zinser, Bunker, & Williams, 2001). Talking to ourselves has been shown to have benefits in various domains. The idea that self-talk can have benefits is among the fundamental principles

underlying the development of cognitive-behavioral therapies; treatments aiming at changing individuals' thoughts, interpretations, and behaviors. Self-talk is one of the cognitive-behavioral techniques that can be effectively used for enhancing and maintaining self-esteem (Branden, 1994; McKay & Fanning, 1992). Therefore, planned, productive self-talk is considered to be an effective strategy used for psyching up, for emotion and effort, relaxation and calming down, attentional focusing, maintaining confidence, and self-evaluation/ self-reinforcement (e.g. Hardy et al., 2001; Zinsser, Bunker, & Williams, 2006). Several mental training techniques are associated with self-talk, including thought stopping, thought replacement, countering, reframing, and cognitive restructuring (e.g. Zinsser et al., 2006). Many of these techniques are used in multimodal mental training interventions or in specific mental training strategies such as P3 Thinking (Veale, 2005), rational-emotive education (Elko & Ostrow, 1991), and energy management (Hanton & Jones, 1999).

Athletes and coaches believe that self-talk is an intervention that enhances sporting performance and various psychological states, such as confidence (Vargas-Tonsing, Myers, & Feltz, 2004; Wang, Huddleston, & Peng, 2003). In addition, many sport psychologists promulgate the benefits athletes and coaches can expect from using self-talk interventions. The use of self-talk as a performance-enhancement strategy in applied sport psychology (e.g. Harris and Harris, 1984) have been advocated and it should not come as a surprise that a common emphasis in the self-talk literature has been its association with sporting performance. Very recently, Hatzigeorgiadis, Zourbanos, Galanis, and Theodorakis (2011) with the use of a meta-analytic approach revealed a positive moderate effect size ( $ES = .48$ ) supporting the facilitative effects self-talk on sport task performance. To summarize, research has generally supported the

beneficial effects of self-talk strategies on performance, and in facilitating learning and enhancing sport task performance.

### *Self-talk as content of thoughts*

When we talk about the content of self-talk, we mostly refer to its' valence dimension. This dimension of self-talk has received much more research emphasis than any other aspects of self-talk. Originally researchers discriminated with regard to the content of self-talk between two broad dimensions, positive and negative self-talk. Self-talk that is said as a form of praise and encouragement (Moran, 1996), and helps keep the athlete's focus of attention in the present, not on past errors or the distant future, is commonly termed as positive self-talk (Weinberg, 1984). In contrast, self-talk that is said as a form of criticism and self-preoccupation (Moran, 1996), and "...that gets in the way because it is inappropriate, irrational, counterproductive, or anxiety-producing is called negative self-talk" (Theodorakis et al., 2000, p. 254). More recently, Zourbanos, Hatzigeorgiadis, Chroni, Theodorakis, and Papaioannou (2009) developed an instrument to assess the content and the underlying structure of athletes' self-talk. Their investigation supported the multidimensionality of athletes' self-talk, which allows further investigating the role of motivational climate in relation to athletes' self-talk. Furthermore, Hatzigeorgiadis and Biddle (2000) identified that athletes' interfering thoughts mostly involved worries about performance and competition, and disengagement thoughts and thoughts irrelevant to the context of the competition.

Research, field studies, that has examined the effect of positive and negative self-talk has produced varied and equivocal support for the use of positive self-talk. Van Raalte, Brewer, Rivera and Petitpas (1994) found that junior tennis players, who lost in matches, used more external negative self-talk. Furthermore, although external positive self-talk was not associated

with better performance, players in their reports indicate that positive self-talk helped them to perform better. Van Raalte, Conrelius, Brewer, & Hatten (2000) in a similar study with adults tennis players found that negative self-talk may not necessarily be related to defeat. Stronger support for the use of positive self-talk to aid performance has been generated from laboratory based studies, as opposed to field based studies (Hardy et al., 1996). There is also a growing body of research indicating that the type of self-talk used is important in terms of performance outcomes. Positive self-talk has predominantly been hypothesized to aid performance, whereas negative self-talk has been expected to cause detrimental performance effects (Zinsser et al., 2010). In addition, several researchers have shown that thought content and self-statements are important predictors of sport success (Klinger et al., 1981; Mahoney and Avenier, 1977; Orlick and Partington, 1988; Weinberg et al., 1984). Furthermore, Mahoney and Avenier's study found that the best discriminator of qualifiers and non-qualifiers for the US Olympic gymnastics team was the nature and content of their self-talk just prior to competition. However, Rotella et al. (1980), for example, found that the content of more successful elite skiers' self-talk did not differ from less successful ones. Overall, this research on the content and use of self-talk is important as it provided evidence and basis for understanding athletes' thoughts, the causes and consequences of the same. Therefore, understanding the factors that shape or influence self-talk is essential, although this research is relatively sparse.

### **Model of self-talk: Antecedents of self-talk**

Besides the research on content of self-talk and self-talk as a cognitive strategy, very important question are the antecedents of self-talk, which are, the factors that determine, shape, or influence self-talk. Despite an ever-increasing body of literature examining the effects and



nature of self-talk, research investigating the antecedents of self-talk is relatively sparse (Hardy, 2006; Van Raalte et al., 2000). According to Hardy (2006) there is absence of an established theoretical grounding for self-talk literature, therefore it is suggested in order to understand the factors that influence athletes' self-talk, the functions of self-talk and self-talk as phenomena, more research is warranted (Zourbanos et al., 2006). Hardy, Oliver, & Tod (2009) proposed a conceptual model for the advancement of self-talk research. Their model postulates that personal and situational factors influence athletes' self-talk, which in turn has an impact on cognitive, motivational, behavioral and affective mechanisms, and subsequently sport performance. However, initiated by Zourbanos, Hatzigeorgiadis and Theodorakis (2007), a new dimension was proposed, namely, social-environmental factors. Below, all three, personal, situational and social- environmental antecedents will be explained.

### *Personal antecedents*

Personal antecedents refer to factors that influence athletes' use of self-talk on a personal level. First individual-level antecedents is drawn from Paivio's (1971) dual coding theory, where individuals' cognitive processing preferences for encoding information is an aspect of this theory and that each person prefers encoding and processing information either verbally or non-verbally. The relevance to self-talk in the present context is the hypothesis that athletes with a strong verbal cognitive processing preference would be likely to use self-talk more frequently than athletes with a strong non-verbal processing preference. This hypothesis may have intuitive appeal, yet research has yet to confirm it. Second possible antecedent of self-talk is belief in self-talk. Studies of interventions in non-sporting context have suggested that a belief or expectancy about intervention effectiveness may be a precondition for it to be effective (e.g. Oikawa, 2004).

From the limited literature focusing on belief in self-talk, it can be gleaned that athletes and participant in laboratory-based studies perceive that belief in self-talk is a relevant issue.

These possible individual antecedents are quite specific to self-talk; however, there are some emerging data to support the notion that more global personality traits might be related to the use of self-talk by athletes. For example, Perry and Marsh (2000) discussed a situation concerning extremely negative self-talk in swimming, where they infer that it was the swimmer's negative self-concept that helped explain the self-talk exhibited. Another example is trait anxiety; Conroy and Metzler (2004) found that self-talk was most strongly associated with fear of failure and sport anxiety, and mildly correlated to fear of success.

While both self-concept and forms of anxiety may be antecedents of self-talk, preliminary evidence suggest that a motivation-based personality disposition, achievement goal orientation, might be another. This line of research was initiated by Hatzigeorgiadis and Biddle (1999) when they examined the relationship between goal orientations and negative self-talk. Their results showed that task orientation was negatively related to disengagement thoughts irrespective of perception of competence. The following study by same authors (2000) found that athletes with high ego and low task orientations were more vulnerable to disengagement thoughts than athletes with different goal profiles. Next study conducted by Hatzigeorgiadis (2002) also focused on negative content types of thoughts, and found that self-consciousness was related to disengagement thoughts and mediated the relationship between ego orientations and disengagement thoughts. In addition, Harwood et al (2004) included positive self-talk in their study and found that elite junior athletes with a higher- task/ moderate-ego goal profile used significantly more positive self-talk in practice and competition compared to athletes with lower-task / higher-ego and moderate-task/ lower-ego goal orientation dispositions. Overall, the results

suggest that task orientation might be in better relationship with positive self-talk, whereas ego orientation had positive relationships with worrying and disengagement thoughts, which relationship could also depend on other personal or situational factors. As noted above, the research about the personal factors that influence and shape athletes' self-talk is sparse and research on the same is needed. Within personal antecedents the most important, yet the only, motivation-based antecedent is athletes' achievement goals orientation; that is whether the athletes are task- or ego-involved.

### *Situational characteristics*

Research that examines the effects of situational factors on the use and content of self-talk has focused specifically on issues such as task difficulty (e.g. Behrend et.al., 1989), match circumstances (e.g. Van Raalte, Conrelius, Hatten, & Brewer, 2000) and anxiety (Hatzigeorgiadis & Biddle, 2008). Van Raalte et al., (2000) examined match circumstances as a predictor of positive and negative self-talk in tennis players. They found that negative self-talk followed after lost points of fault serving. Yet, for some participants, positive or instructional self-talk was observed after losing a point. The results of this study indicated that the progress of the competition could be a determinant of athletes' self-talks.

A consistent finding in the mainstream psychological research is of a quadratic relationship between task difficulty and private speech, in that the greatest use of private speech is observed on moderately difficulty tasks (Behrend et al., 1989; Ferneyhough and Fradley, 2005). Furthermore, Ferneyhough and Fradley found some support for their proposal that, in line with Vygotsky's (1962) theoretical propositions, self-talk primarily serves as a self-regulatory function. As such, self-talk is used to cope with more difficult tasks but is less likely to be

employed for tasks that are perceived as too hard or for which no strategies have been learned or developed. Hatzigeorgiadis and Biddle (2008) examined discrepancies between goals and performance as predictors of negative self-talk in runner. In their study, they found strong relationship between those discrepancies and negative self-talk, which suggested the importance of athletes' negative self-talk. Overall, situational characteristics play, along with personal antecedents, important role in shaping athletes' self-talk. It is evident that, even these represent situational characteristics (i.e. match circumstances) it influences athletes differently and, in turn, their use of different types of self-talk. This suggests that when examining the situational antecedents, they should be examined together with others, personal and social-environmental factors.

#### *Social - environmental factors*

A third dimension influencing the content of self-talk has been initiated by Zourbanos (2008) and concerns social-environmental factors. This refers to the presence of behavior of those around the athlete, especially significant others and their influence on athletes (e.g. Zourbanos et al., 2006). Earliest research was conducted with the pre-school children and had shown that they produce a greater frequency of private speech in the presence of significant others, such as mothers (Behrend et al., 1989). Additionally, in educational environments, teachers' negative statements have been associated with an increase frequency of negative self-talk in male students, and teachers' positive statements with an increase in positive self-talk in both male and female students (Burnett, 1999). Taken together, the studies described above would seem to imply that the behavior and use of language by significant others may be an important precursor of athletes' self-talk.

Within sport, coaches are frequently considered an influential significant other; therefore it seems important to consider their effect on athletes' self-talk. Cross-cultural findings suggest that coaches promote the use of positive self-talk by their athletes and perceive it to be an effective confidence-enhancing intervention (e.g. Weinberg et al., 1992). However, there appears to be conflicting evidence regarding the potential influence of a coach on athletes' reported use of self-talk. For example, Hardy and Hall (2006) identified that the majority of athletes (61 percent) report that their coaches have previously promoted self-talk, and that the reasons why self-talk was encouraged (e.g. to increase confidence, to improve concentration) were similar to the reasons why the athletes themselves used self-talk. Nonetheless, Hardy and Hall found that coaches' promotion of self-talk was unrelated to the frequency of athletes' self-talk. In contrast, in a study with Greek athletes, Zourbanos et al. (2006) found that coaches' negative activation behaviors, including distracting athletes or acting inappropriately, were directly related to athletes' thoughts of failure and negative self-talk. A related study by the same authors (Zourbanos et al., 2007) found evidence that coaches' statements to their athletes mediated the coach behavior/ self-talk association. In particular, whereas supportive behavior predicted positive coach statements, which in turn predicted athletes' positive self-talk, negative behaviors was positively associated with negative coaching statements that were subsequently correlated with negative self-talk (Zourbanos et al., 2007).

Taken together, these findings may suggest that it is the actual behavior of coaches, rather than their endorsement of particular strategies, which is most strongly related to athletes' self-talk. That coaching behaviors impact on athletes' use of self-talk concurs with Lawrence and Valsiner's (2003) model of self-talk, in which self-talk is proposed to be a mechanism through which social influences and social messages are evaluated and internalized by the individual.

From the research discussed above, it is apparent that, socio-environmental factors can influence the frequency and nature of self-talk, and therefore potentially effect the performance. However, given the limited investigation of the antecedents of self-talk within the sporting domain, more in-depth examination of the aforementioned antecedents is warranted. In addition, it is likely that all groupings of preceding factors interact to influence athletes' use of self-talk. As noted, through the research that has been conducted, it can be suggested that the coach is important factor in shaping athlete's self-talk. With regard to social and environmental factors, the importance of motivational climate is evident; where it seems to be influential determinant of athletes' self-talk. To date, there have not been published studies on the relationship between motivational climate and self-talk, although unpublished master thesis data have provided preliminary support for the relationship between motivational climate and athletes' self-talk. This indicates that not enough attention have been shown to this area, although there is clearly evidence for supporting socio-environmental factors' importance.

## **Outcomes**

### *Performance*

The self-talk research has mostly focused on the relationship between self-talk and performance. In this area, some field and mostly experimental studies have been conducted. The study conducted by Van Raalte et al. (1994) reported that positive self-talk in young tennis players was not related to better performance, but negative self-talk was associated with worse performance. Following study by Van Raalte et al. (2000) found that positive and negative self-talk could not significantly predict the outcome of the following point, suggesting that self-talk was not related to performance. The conclusion from these field studies is that they have not

provided consistent results regarding the relationship between athletes' self-talk and performance.

On the other hand, experimental studies in sport self-talk literature have been examining the effectiveness of self-talk interventions on task performances in order to demonstrate beneficial effects of self-talk. In early studies that explored the use of cues aiming to provide instruction and reinforcement to athletes, it has been shown that all types of self-talk cues resulted in improved performance (e.g.,; Ziegler, 1987; Rushall, Hall, Roux, Sasseville and Rushall, 1988). Investigation the use of cues in self-talk experimental studies has expanded lately and it has been proven that self-talk facilitated learning and enhances performance in a variety of tasks and skills, varying from fine motor skills (Van Raalte et al., 1995) to gross motor skills (Edwards, Tod & McGuigan, 2008) and from novel tasks (Hatzigeorgiadis, Theodorakis, & Zourbanos, 2004) to learned tasks (Malouff & Murphy, 2006), and in different populations varying from students (Theodorakis, Chroni, Laparidis, Babetos & Douma, 2011) to young and beginner athletes (Goudas, Hatzidimitrou, & Kikidi, 2006; Perkos, Theodorakis, & Chroni, 2002) to more experienced (Landin & Hebert, 1999) and elite athletes ( Mallet & Hanrahan, 1997).

In addition, few other studies have examined this relationship. It has been shown that inappropriate or misguided thinking usually leads to negative feelings and poor performance, just as appropriate or positive thinking leads to enabling feelings and good performance (Kendall, Hrycaiko, Martin, & Kendall, 1990; McPherson, 2000; Van Raalte et al., 1995). Researchers have found that planned self-talk enhances skill acquisition and performance in sport (J.Hardy, Gammage, & Hall, 2001; Johnson Hrycaiko, Johnson, & Halas, 2004; Theodorakis , & Chroni, 2002). Research indicated that different types of self-talk (e.g. instructional versus motivational)

may be effective in enhancing different types of sport performance (e.g. precision versus power tasks); thus future research should pursue the specificity or matching of type of self-talk with type of task (Hatzigeorgiadis, Theodorakis & Zourbanos, 2004). According to Hardy et al (2001), performance does benefit of self-talk when athletes use positive, instructional, and motivational categories of self-talk. Nevertheless, contrary to the sentiments expressed in applied texts (e.g., Bull, Albinson, & Shambrook, 1996) currently available data suggest that negative self-talk may not have a detrimental effect on motor skill performance. Most recently, in assessing the effectiveness of self-talk interventions, Hatzigeorgiadis, Zourbanos, Galanis and Theodorakis (2011) have conducted a meta-analysis of self-talk –performance relationship. They found a moderate positive effect size ( $d = .48$ ). Overall, self-talk interventions have proven to be effective in facilitating learning and enhancing sport task performance.

#### *Functions of self-talk*

Giving the robust evidence regarding the facilitating effects of self-talk on performance, but also considering that different self-talk cues may have different performance effects, subsequent research has started to investigate the functions of self-talk. These functions refer to the mechanisms through which self-talk influences performance. Within the self-talk research, the area that is currently receiving increasing attention are non-performance based outcomes. Attempting to explore these mechanisms Theodorakis, Hatzigeorgiadis, and Chroni, (2008), identified five relevant dimensions. They suggested that self-talk can help by enhancing attentional focus, increasing confidence, regulating effort, controlling cognitive and emotional reactions, and triggering automatic execution. Furthermore, in the literature, when examining the non-performance based outcomes of self-talk, the relationship between anxiety and performance has been investigated and suggested that anxiety is not always detrimental to performance



because it may serve a motivational function (Eysenck, 1992). In addition, Hatzigeorgiadis and Biddle (2001) examined relationship between negative self-talk, in the form of worry, and performance components, in the form of effort and concentration, as a function of athletes' expectancies to attain their goals. They found that negative self-talk was negatively related to concentration regardless of goal attainment expectancies, whereas for effort a moderating role was identified for goal attainment expectancies. This study showed that effort and concentration are among the mechanisms that may explain the effects of self-talk on performance. Landin (1994) was one of the first researchers to investigate the issue of the mechanisms underpinning the self-talk performance relationship. He stressed the importance of attentional control and information processing, where it was suggested that verbal cues can facilitate performance through enhancing appropriate attentional focus, and also that the use of self-talk cues can help perceptual processing, decision processing, facilitating the selection of appropriate responses.

In addition, very important non-performance based outcomes of self-talk are considered to be self-efficacy beliefs. Hardy (2006) first considered the relevance of Bandura's self-efficacy theory. He suggested that self-talk may influence performance through increases in self-efficacy beliefs. Furthermore, Hatzigeorgiadis et al. (2008) examined the effectiveness of a self-talk intervention on improving forehand drive performance, but also self-efficacy in young tennis players. They found that the use of motivation self-talk improved self-efficacy and performance, and, moreover, that increases in self-efficacy were related to increases in performance, suggesting that self-efficacy may be a mechanism explain the facilitating effects of self-talk.

Self-talk has been shown as a salient strategy in facilitating athletes' performance, yet bigger understanding of this construct is warranted. Not enough research has been conducted in examination of self-talk's causes and consequences. Self-talk is influenced and shaped by

personal, situational and socio-environmental factors, after which self-talk can affect performance and non-performance based outcomes. Our interested lays in non-performance based outcomes, such as self-efficacy beliefs. Furthermore, in examination of what are the factors that influence self-talk, in the dimension of socio-environmental factors the behavior of significant other has been shown to be influential determinant of athletes' self-talk. Motivational climate is being established by the coach, which is considered to be the most influential significant other for the athletes. In the following sections we will explain motivational climate from a socio-environmental perspective, as well as self-efficacy beliefs and how they are being influenced with athletes' use of self-talk.

## **Motivational climate**

Now we will reflect on the environmental aspect of motivation, within the achievement goal theory (Nicholls, 1989). As noted earlier, the environment plays a central role in the motivation process (Ames, 1992a; Nicholls, 1984, 1989). A key variable in determining the motivation of athletes relates to the salience of task-and ego-involving cues in the achievement context. The focus here is on how the perceived structured of the environment, often referred to as the motivational climate (Ames, 1992), can make it more or less likely that a particular goal state is manifested in training or competition. Whether an individual is in a state of task or ego involvement is assumed to depend on environmental factors (i.e., the motivational climate) as well as the dispositional orientation (i.e., degree of task and ego orientation) of the person (Nicholls, 1989). Within sport, a performance (or ego-involving) and a mastery (or task-involving) climate are hypothesized to exist (Ames, 1992a, 1992b; Duda, 2001a) and sport research has supported this supposition (e.g., Newton, Duda, & Yin, 2000). Research has shown that a perceived task-involving setting is characterized by the athletes' view that the coach does

reinforce high effort, cooperation among team members, learning and improvement, and the perceptions that everyone on the team contributes to the team's achievements (Newton & Duda, 1999; Ommundsen, Roberts & Kavussanu, 1998; Seifriz, Duda & Chi, 1992; Treasure, Standage & Lochbaum, 1999; Wailling et al., 1993). A perceived ego-involving team climate, in contrast, is marked by athletes' perceiving that the coach punishes their mistakes, fosters rivalry among team members, characterized by interpersonal competition, social comparison, and coach gives much of his or her attention to the most talented athletes on the team. (Nicholls, 1989; Roberts et al., 2007)

### **Self-efficacy beliefs**

Self-efficacy beliefs are believed to influence and be influenced by motivation, affect, and behavior through social-cognitive theory (Bandura, 1986). Bandura's social-cognitive theory (1997) is unique as it claims that behavior is neither driven by strictly internal forces nor controlled by external stimuli. Instead, social-cognitive theory suggests that cognition, behavior, and the external environment all act and are acted upon by each other, although not always equally (Bandura, 1986). Further, individuals are viewed as proactive agents in this relationship in which they regulate their cognition, behavior, and environment rather than passively react. Within social-cognitive theory, self-efficacy is concerned primarily with the cognitive aspects of this reciprocal process (Maddux, 1995). As such, self-efficacy beliefs influence behavior, affect, and selection of environments and are influenced by behavior, affect, and environmental events. Thus, according to Bandura (1997), self-efficacy beliefs represent the core factor that determines people's goal-directed behavior. Bandura defines a person's perceived self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p.3). Thus, self-efficacy is not concerned with the abilities

that one has; rather it is the belief in executing the skills that one already possesses that makes up an individual's efficacy beliefs. In addition, self-efficacy is a situation-specific construct that fluctuates as the demands of a particular task change or as individuals cognitively interpret their ability to produce a desired behavior or achieve a specific level of proficiency. Efficacy beliefs are dynamic in nature and are being altered by one of four main sources of information; mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states (Bandura, 1997). Furthermore, Bandura (1986) has argued that (1) our efficacy beliefs mediate subsequent thought patterns, affective responses, and action and that (2) self-efficacy is positively related to positive motivational patterns.

#### *Sources of self-efficacy*

Mastery experience is the most influential source of efficacy information because it provides an "authentic experience," revealing whether the skills or behavior that the person possesses or displays will result in success (Bandura, 1997). According to Bandura (1997) past performance successes is not the direct cause of increased self-efficacy, but the changes in a person's self-efficacy result from the cognitive processing of a performance, which then conveys information about the capability that the person possesses. Additionally, this type of efficacy information is most significant during early trials, when future performance remain in doubt (Feltz, 1982, 1988). Thus, although failure generally undermines self-efficacy, a highly resilient source of self-efficacy requires perseverance in overcoming obstacles using persistence and effort (Bandura, 1997).

A vicarious experience, or comparing the capabilities that one has with another, is the second source of self-efficacy that is salient because in many activities an absolute measure of

excellence may not be available (Bandura, 1997). Although this source is generally not as potent as mastery experiences, it benefits individuals by providing a model on how best to accomplish a skill or task and can strengthen the capability of one's beliefs, especially when the model being observed is assumed to be similar to oneself (Bandura, 1997). Furthermore, Bandura (1997) includes cognitive self-modeling as a form of modeling influence. For instance, imagining oneself or others behaving successfully or unsuccessfully in upcoming performance situations can be a source of positive efficacy information. Feltz and Riessinger (1990) showed that imagining oneself winning against an opponent could raise efficacy judgments and endurance performance.

A third way to increase a person's self-efficacy is through direct statements (including self-statements) or social persuasion from significant others. As Bandura (1997) states, "It is easier to sustain a sense of efficacy, especially when struggling with difficulties, if significant others express faith in one's capabilities than if they convey doubts" (p.101). In addition, the perceptions of credibility, expertise, and trustworthiness can affect the ability of social persuaders because people are more suitable to trust those who are also skilled in the activity (Bandura, 1997; Feltz & Lirgg, 2001). Therefore, if the person conveying the efficacy-enhancing information is considered credible and knowledgeable, the verbal persuasion is likely to be more influential. The verbal persuasion can come from coaches, sport psychologists, and significant others. This can be in the form of feedback ("here is how you need to do this") or motivational ("come on, you can do it!") statements. Athletes also often employ verbal persuasion (or positive self-talk) to help themselves feel efficacious about what they are about to do. As there is a tendency to act according to how we think, positive self-and task-related statements made by athletes can increase their self-efficacy, too.

The most diverse source of efficacy, physiological and affective states make up the last component. Specifically, Bandura (1997) argues that these somatic indicators are especially relevant in the domains of physical accomplishments and health functioning, such as exercise and sport. The important is how these reactions are perceived and then interpreted. As Bandura (1997) notes, high achievers perceive these somatic responses as energizing factors, whereas low achievers view them as hindrances for their upcoming performance. Furthermore, an individual's mood state can have an effect on perceived self-efficacy because people are more likely to make positive evaluations about why things occurred when they are in a good mood and negative evaluations when they are in a bad mood. Finally, physiological and affective states can also encompass individual's perceptions about their fitness, fatigue, or injury (Feltz, 1988).

The relevance of self-efficacy in the self-talk research is suggested by Hardy (2006), where the influence of self-statements in increases in self-efficacy beliefs is considered. Self-efficacy beliefs are not considered as the skills athletes possess, but what skills athletes believe they possess; therefore this belief plays a significant role in shaping their self-efficacy. Athletes use self-statements to facilitate these beliefs and those statements are of our interest along with how these self-statements influence athletes' self-efficacy.

## **The mediation**

### *Motivational climate and self-efficacy*

In the sport psychology literature review, motivational climate has been shown to affect beliefs about competence and success (e.g. Anderson, Walker, & Ralph, 2009; Standage et al., 2003a), where being task or ego-involved affects the way athletes define and assess their competence and success. Task-involved individuals tend to construe competence based on self-referenced criteria and are primarily concerned with mastery of the task, so they are more likely

than ego-involved individuals to develop perceived competence over time (Elliot & Dweck, 1988). In contrast, ego-involved people feel competent when they compare favorably with others, so they are less likely to maintain high perceived relative ability or competence, especially those who already question their ability (Dweck, 1986). This prediction of achievement goals has been supported in numerous studies with a variety of conceptualizations of competence perceptions. Furthermore, motivational climate affects the causes of success (e.g., Ommundsen & Roberts, 1999; Nicholls (1989) maintained that a person's beliefs about the causes of success in a situation comprise her or his personal theory of how things work in achievement situations. For people with low perceived ability, a belief that ability causes success will likely result in frustration and a lack of confidence, and even lead to dropping out because these individuals believe they do not possess the natural ability required to be successful. Research has confirmed these arguments with young athletes, high school students, and elite adult athletes (e.g. Anderson & Dixon, 2009). In addition, motivational climate is believed to affect effort and performance (e.g., Duda & Nicholls, 1992; Treasure & Roberts, 2001a). Moreover, when examining self-efficacy beliefs within sport activities, one must say that it plays an important motivational role. In sporting world, building a strong sense of self-efficacy about what one can successfully execute has been shown to increase an individual's motivation and athletic skill set in a variety of sports, from tennis to power lifting (Feltz, Short, & Sullivan, 2008). Additionally, after the essential skills have been learned in a specific sport, the person's level of perceived efficacy is one of the most important psychological factors that differentiates successful elite athletes from less successful ones) because unstable efficacy beliefs are likely to set up an individual for failure when faced with a pressure-filled situation (Bandura, 1997). Although the beliefs that individuals base their motivations in exercise and sport are important,

what is vital to understand is that people's perceived self-efficacy affects motivation based on what they believe to be true rather than what is objectively factual in their environment (Bandura, 1997). With the respect to perceptions on competence, numbers of elements contribute to athletes' perceived self-efficacy. For example, by providing effective models, for success when athletes are learning a new skill or starting the competitive season, and verbal persuasion, coaches and sport psychologists can enhance the confidence level of their athletes. Through learning and mastering psychological skills (e.g. arousal regulation, imagery) athletes make it more likely that their self-efficacy is elevated and resistant to fluctuation. In the physical activity domain, self-efficacy has particular importance. Self-efficacy theory implies that the techniques used by coaches affect performance and behavior through their effects on self-efficacy (McAuley & Gill, 1983). There is evidence that climate influences self-efficacy. This gives us the ground to examine potential mediating role of self-talk on the relationship of motivational climate and self-efficacy.

#### *Motivational climate and self-talk*

Hardy, Oliver, and Tod (2009) in a conceptual model of self-talk considered, among other factors, the role of the coach in shaping athlete's self-talk. The impact of the social environment in general, and significant others in particular, on individuals' cognition has a long history in psychology (e.g. Mead 1912, 1964; Burnett, 1996, 1999). Shaver (1975) notices, one's perceptions of another's behavior are more important than the behavior itself, because it is the perception that may have the impact and not the behavior per se. Scholars such as Mead (1912/1964) and Vygotsky (1986) addressed the role of social environment on the formulation of individuals' self-talk. The above social-cognitive theorists propose that individuals' interaction with the social environment, and in particular significant others' behavior directed at them,



influence the way individuals view themselves and respond to stimuli through internalization processes. Research in educational psychology has revealed relationships between significant others' statements and children's positive and negative self-talk, and the influence of self-talk on self-concepts and self-esteem. (Burnett, 1996; 1999). Furthermore, the relationship between social environment and cognitions has been also considered in health psychology. According to the social cognition hypothesis (Lakey & Drew, 1997) relationships with others and availability of support influence thought experiences by the individuals. Furthermore, it has been proposed by Zourbanos, Hatzigeorgiadis and Theodorakis (2007) that research onto personal factors can facilitate understanding of individual differences in the self-talk experiences. Identifying the mechanisms underlying the effectiveness of self-talk will allow us to develop and implement more effective self-talk strategies. Subsequently, when talking about coaching behavior and its effect on athlete's cognitive states, Williams et al. (2003) found that supportive coaching behavior was positively related to self-confidence and negatively related to cognitive anxiety, whereas negative activation was negatively related to self-confidence and positively related to cognitive anxiety. The above findings provide a basis for the investigation of the links between coaching behavior and athletes' cognitions. In another preliminary study, Zourbanos, Theodorakis, and Hatzigeorgiadis (2006) investigated how athletes' social environment can influence cognitive processes, such as self-talk. They reported that supportive coaching behavior was positively related to positive self-talk and negatively related to negative self-talk, whereas negative coaching behavior was positively related to negative self-talk. Their results showed that social support provided by coaches, in the form of esteem support, mediated the relationship between coaches' supportive behavior and athletes' positive self-talk. Moreover, it was found that coaches' negative activation predicted directly athletes' negative self-talk. Overall, the

results of the study stress the importance of coaching behavior and esteem support in shaping athletes' self-talk. Furthermore, Zourbanos, Hatzigeorgiadis, and Theodorakis (2007) reported that supportive coaching behavior was positively related to positive self-talk; whereas negative coaching behavior was related to negative self-talk. In addition, Conroy and Coatsworth (2007) raised the potential role of internalization, the developmental process through which young athletes accept and integrate the coach's beliefs and behaviors into their own sense of self, as a mechanism explaining coaching influences on athletes. They explored, based on a cognitive interpersonal model, self-talk as a mediator in the relationship between coaching behavior and athletes fear of failure and found that coaching behavior was indeed related to changes in athletes' self-talk. Furthermore, Zourbanos et al. (2010) investigated the relationship between coaching behavior and athletes' inherent self-talk. Their results showed that supportive coaching behavior was positively related to positive self-talk (in one sample) and negatively related to negative self-talk (in both samples), whereas negative coaching behavior was negatively related to positive self-talk (in one sample) and positively related to negative self-talk (in both samples). Their third study examined the relationships experimentally, to produce evidence regarding the direction of causality. The results showed that variations in coaching behavior affected participants' self-talk. Overall, the results of these studies provided considerable evidence regarding the links between coaching behavior and athletes' self-talk and suggested that coaches may have an impact on athletes' thoughts. The extant literature in physical education and sports suggests that the creation of mastery motivational climate is likely to be important in optimizing positive (i.e., well-being, sportsmanship, persistence, task perseverance, adaptive achievement strategies) and attenuating negative (i.e., overtraining, self-handicapping) responses (e.g., Kuczka & Treasure, 2005; Miller, Roberts, & Ommundsen, 2004; Ommundsen & Roberts, 1999;

Sarazzin, Roberts, Cury, Biddle, & Famose, 2002; Standage, Treasure, Hooper, & Kuczka, 2007; Standage, Duda & Ntoumanis, 2003a; Treasure & Roberts, 2001a). Issues like the role of motivational climate in relation to achievement goals and self-determination, coaching behaviors and athlete's perceptions and interpretation of competitive situations could further enhance our understanding regarding the generations and the determinants of athletes' self-talk.

Overall, little attention has been given to the way coaches' behavior and statements affect athletes' self-talk. There has not been much research on the motivation climate and self-talk, although as we could note in the aforementioned research, it is clearly stated that perceived motivation climate in the way coaches behave is assumed to correspond to adaptive cognitions, affect, and behaviors of athletes. This is then assumed to affect the achievement behaviors, cognitions, and affective responses of individuals through their perception of the behaviors necessary to achieve success or avoid failure (Roberts et al., 1997, 2007). Therefore, we hypothesized that climate would influence self-talk and self-efficacy beliefs.

### *Self-talk and self-efficacy*

Foremost, there are no studies examining the mediational role of self-talk in the relationship between environmental factors and self-efficacy. Thus far, the only study that examined these two constructs was presented by Hatzigeorgiadis et al. (2008) where they investigated examined the effectiveness of a self-talk intervention on improving forehand drive performance, but also self-efficacy in young tennis players. The results showed that the use of motivational self-talk improves self-efficacy and performance, and moreover that increases in self-efficacy were related to increases in performance. This study is important as it suggests that self-efficacy may be seen as a mechanism explaining the facilitating effects of self-talk. In

addition, sparse research has shown that self-talk is used by athletes in an attempt to improve their confidence (Gould, Hidger, Peterson & Billing, 1989) and motivation (Van Raalte et. al., 1994). Therefore, as it is important what athletes say to themselves, the content, equally important are the functions that self-talk serves. There has not been enough research on the functions of self-talk. It has been stated that there was not enough theory- based, systematic self-talk research, crucial to the process of understanding of the construct. Furthermore, according to Zinser, Bunker and Williams (2008) the most consistent finding in peak performance literature is the direct correlation between self-confidence and success. Athletes who are truly outstanding are self-confident. Their confidence has been developed over many years and is the direct result of effective thinking and frequent experiences in which they have been successful. Thoughts directly affect feelings and ultimately actions (Kendall, Hrycaiko, Martin, & Kendall, 1990; McPherson, 2000; Van Raalte et al., 1995). Hardy et al. (2006) proposed that some motivational mechanisms may also mediate the self-talk/ performance relationship. Coaches, physical educators and sport psychologists have long recognized the importance of maximizing motivation (Likang, 2004), and the link between motivational factors and performance has previously been established in multiple domains, including sport (Scully and Lowry, 2002), education (Shui-Fong and Yin-Kum, 2007) and business (Day and Allen, 2004). Additionally, athletes have reported using self-talk for motivational functions (e.g. Hardy et al., 2001a), and have shown a preference for using motivational types of self-talk (Goudas et al., 2006). The focus within motivational mechanisms is on the influence of self-talk on two specific motivational factors, self-efficacy and persistence. Self- efficacy theory (Bandura, 1997) provides a possible framework to underpin the effects of self-talk on motivational and performance outcomes (Hardy, 2006). Self-efficacy has a moderate positive association with

performance (Moritz et al, 2003) and has also been associated with enhanced effort (Weinberg, 1986), positive affect (Brown et al., 2005) and long-term behavioral persistence (McAuley et al., 2007). Self-efficacy is conceptualized as a motivational variable as it has been proposed to influence the initiation of behavior, effort and persistence following failure (Lane et al., 2002). It is suggested that self-talk may influence self-efficacy by acting as a form of self-delivered verbal persuasion, and that positive self-talk, for example, might increase self-efficacy, and subsequent effort, persistence and performance (Hardy, 2006). According to Tod et al (2011) there has been little research conducted that indicate about when, where, why and how interventions may work. These questions pertain to the role of mediating variables, which might help explain the effect of self-talk on performance- related outcomes, as well as moderating variables, which might identify constraints as to when those effects will hold. Previous researchers (e.g., Hardy, Oliver, & Tod, 2009) have argued that to determined meaningfully whether self-talk affects performance it is necessary to consider a number of moderating factors.

Therefore, as presented above, there is evidence that social-environmental factors influence athletes' self-talk. One of the most important features of the sport environment is the motivational climate. So, we expected that motivational climate will predict self-talk. In addition, there is evidence that self-talk strategies improve sport performance and part of this can be attributed to the effects of self-talk on self-efficacy beliefs. Based on the relationship between motivational climate and self-talk and relationship between self-talk and self-efficacy, the purpose of our study was to test this mediation hypothesis.

### **Hypotheses**

Consequently, in this study we examined the relationships between young athletes' positive and negative self-talk, their perceptions of coaches' motivation climate and their self-

efficacy beliefs. Based on the previous findings on the influence of coaches' behavior on athletes' self-talk (e.g., Zourbanos et al., 2010; Zourbanos et al., 2011) and the effects of athletes' self-talk on self-efficacy beliefs (e.g., Hatzigeorgiadis et al., 2008), we assumed that athletes self-talk will mediate the relationship between motivational climate and self-efficacy. In the line with previous research we have developed four hypotheses based on the social cognitive theory (Bandura, 1997) and review of the current self-talk literature. In particular, it was hypothesized that (a) a task-involving climate will positively predict positive self-talk which will positively predict self-efficacy; (b) a task-involving climate will negatively predict negative self-talk which will negatively predict self-efficacy; (c) an ego-involving climate will negatively predict positive self-talk, which will positively predict self-efficacy; and (d) an ego-involving climate will positively predict negative self-talk which will negatively predict self-efficacy.

## METHOD

### *Participants and procedure*

For the purposes of the study, participants were recruited from 8 youth football clubs in the area of Thessaloniki (N= 291), Greece. They were aged 9-15 years, with a mean age 11.63 years (SD = 1.55). All the participants were males. The questionnaires were distributed to these young athletes one month after the beginning of the season.

The participants were purposely selected and asked to sign consent forms, along with their coaches and parents. All athletes were informed that participation was voluntary and after providing information consent, they were assured that confidentiality would be maintained. Subsequent, they were administered with the questionnaires to fill out, which took approximately 20 minutes and were completed under the supervision of one of the authors, with the presence of the coach, in a practice sessions before the warm-up periods. The assessment was held in the middle of October. All questionnaires were completed at the facilities of the football clubs. Permission to conduct the study was obtained by the institution's research ethics committee.

### *Instruments*

*Self talk in sport.* Self-talk was measured to evaluate athletes' self-talk content, with The Automatic Self-talk Questionnaire for Sport (ASTQS) developed by Zourbanos, Hatzigeorgiadis, Chroni, Theodorakis, Papaioannou (2009). This questionnaire is consisted of 40 items assessing four positive and four negative dimensions. Positive self-talk consists of confidence (e.g., I believe in myself), anxiety control (e.g. Keep calm), psych up (e.g., Do your best), and instruction (e.g., Concentrate on what you have to do right now) dimensions. Negative self-talk consists of worry (e.g., I/ We will lose), disengagement (e.g., I want to quit), somatic fatigue

(e.g., I feel tired) and irrelevant thoughts (e.g., I am hungry) dimensions. However, in the present study we constructed a short version of ASTQS using 4 positive and 4 negative representing two broad positive and negative self-talk factors. Participants were asked to indicate how frequently they experiences the thoughts that were listed during their last month competitions on a 5-point scale (0=*never*, 4=*very often*). Zourbanos et al. (2009) has provided support for the psychometric integrity of the ASTQS through evidence of construct validity and internal consistency reliability. Reliability analyzed with Cronbach's alpha for the positive self-talk was .72, which shows acceptable level of internal consistency of the scale. Furthermore, Cronbach's alpha for negative self-talk with .69 which shows acceptable level of internal consistency.

*Perceived motivational climate.* Motivational climate was assessed with a short version of the Perceived Motivational Climate in Sport Questionnaire-2 (Newton, et al., 2000). The questionnaire included 16 items; 9 assessing perception of a task-involving climate (e.g. “encouraging to work together as a team”) and 7 assessing perception of a ego involving climate (e.g. “favoring some players”). Reliability analyzed with Cronbach's alpha for the task-involving climate was .71, and for the ego-involving climate was .70 which shows acceptable level of internal consistency.

*Self-efficacy beliefs.* Participants were asked to complete a self-efficacy measure specifically designed for football (Bray, Balaguer & Duda, 2004). They reported how confident they are to perform each of the 10 independent soccer skills during competition. The items from the scale were prefaced with the generic statement: “My confidence in my ability to... is: \_\_\_\_ % “. Item content included the following independent skills: dribble past an opponent, pass the ball accurately, challenge an opponent for the ball, trick and opponent, protect the ball, head the



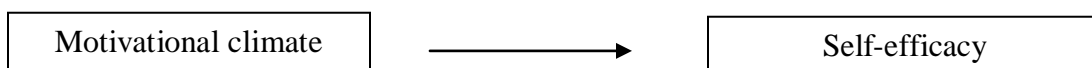
ball accurately, recover the ball, provide support under pressure, drive (strike) the ball, instigate a foul and take a foul. Each item was rated on a scale of 0% (“not at all confident”) to 100% (“extremely confident”). Reliability analyzed with Cronbach’s alpha for this scale is .88 which shows good level of internal consistency of the scale.

## Data Analysis

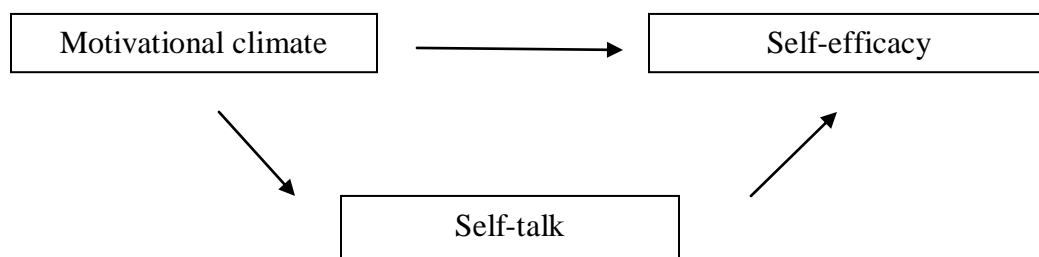
Preliminary analyses were computed to assess the relationships among athletes’ self-talk and self-efficacy beliefs and coaches’ motivational climate using Pearson’s product-moment correlation coefficient.

We used multiple regression analyses to run four models examining the mediating effect of athletes’ self-talk on the relationship between coaches’ motivational climate and athletes’ self-efficacy beliefs according to the established method presented by Barron and Kenny (1986). The standardized coefficients (Beta’s) are reported as well as significance levels. The regression models that were used to test the hypothesized mediation are displayed in Figure 1.

### Panel A



### Panel B



*Figure 1: The Mediation model. Panel A: the direct effect of motivational climate on athletes' self-efficacy, and Panel B: The mediation effect of motivational climate affecting self-efficacy through self-talk*

## RESULTS

### *Preliminary analyses*

Means, standard deviations, Cronbach's alpha coefficients and bivariate correlations of self-efficacy, task and ego involving climate and athletes' positive and negative self-talk dimensions are reported in Table 1. In general, the results revealed that coaches' task-involving climate was positively related to athletes' positive self-talk dimension. More specifically, task-involving climate had a moderate correlation with athletes' positive self-talk. Next, it was revealed that athletes' self-efficacy beliefs had low positive correlation with athletes' positive self-talk. Furthermore, the results showed a low positive relationship of task-involving climate with athletes' self-efficacy beliefs. The results revealed low negative relationship between task-involvement and athletes' negative self-talk. The relationship between athletes' negative self-talk and athletes' self-efficacy beliefs did not yield significant results. Furthermore strong positive relationship was obtained between ego involving climate and athletes' negative self-talk dimension. Yet, ego-involving climate did not have significant relationship with athletes' levels of self-efficacy beliefs. Finally, and the results revealed that ego-involving climate had no significant relationship with athletes' positive self-talk, yet the relationship was negative. Furthermore, the results also showed that ego-involving climate and self-efficacy beliefs were not significantly correlated (see Table 1).

Based on the correlations, the mediation for the relationship between task climate and self-efficacy will be tested, whereas the mediation for the relationship between ego climate and self-efficacy will not be tested.

Table 1. Descriptive statistics, Pearson's correlations and Cronbach's alpha coefficients for all scales.

Scales	<i>M</i>	<i>SD</i>	alpha	1	2	3	4
01. Positive self-talk	3.76	.78	.72	-			
02. Negative self-talk	2.12	.88	.69	.02	-		
03. Self-efficacy	7.37	1.58	.88	.18**	-.03	-	
04. Task-involvement	4.13	.50	.71	.35**	-.18**	.17**	-
05. Ego-involvement	2.43	.74	.70	.06	.40**	.07	-.25

Note: \* $p < 0.05$ ; \*\*  $p < 0.01$

## Mediation analyses

### Task Climate - positive self-talk – self-efficacy

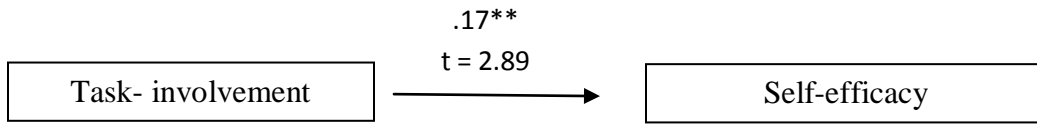
Athletes' positive self-talk was found to mediate the relationship between task-involving climate and athletes' self-efficacy beliefs (see Figure 2). A four-step method was used in analyses. First, regression analysis with athletes' self-efficacy beliefs as the criterion variable and task-involving climate as predictor variable demonstrated a significant effect that may be mediated ( $\beta = .17, p < .01$ ). Next, a regression analysis with task-involvement as the predictor variable and athletes' positive self-talk as the criterion variable showed a significant correlation between task-involvement and the mediator ( $\beta = .36, p < .01$ ). Next using athletes' self-efficacy beliefs as a criterion variable and athletes' positive self-talk entered at step 1 and task-involving climate included at step 2, we found that athletes' positive self-talk (the mediator) was correlated with athletes' self-efficacy beliefs ( $\beta = .19, p < .01$ ) and remained significant when controlling for

task involvement ( $\beta = .14, p < .05$ ). Taken together, athletes' positive self-talk was found to mediate the relationship between task involvement and athletes' self-efficacy beliefs. In the last step, when we controlled for athletes' positive self-talk (entered at step 1 task involvement and at the second step athletes' positive self-talk), the significant relationship between task involvement and athletes' positive self-efficacy beliefs was reduced to non-significant ( $\beta = .12, p = .06$ ) suggesting a mediating effect of task involvement on athletes' self-efficacy beliefs through athletes' positive self-talk.

#### **Task Climate – negative self-talk – self-efficacy**

First, regression analysis with athletes' self-efficacy beliefs as the criterion variable and task-involving climate as predictor variable demonstrated a significant effect that may be mediated ( $\beta = .17, p < .01$ ). Next, a regression analysis with task-involving climate as predictor variable and negative self-talk as the criterion variable showed a negative significant correlation ( $\beta = -.19, p < .01$ ). Next using athletes' self-efficacy beliefs as a criterion variable and athletes' negative self-talk entered at step 1 and task-involving climate included at step 2, we found that athletes' negative self-talk (the mediator) was not correlated with athletes' self-efficacy beliefs ( $\beta = -.03, p = .62$ ) and remained non-significant when controlling for task involvement ( $\beta = -.00, p = .99$ ). Based on these results we didn't continue to the next step as the requirements for the mediational analyses were not satisfied. The mediation is displayed in Figure 3.

Panel A



Panel B

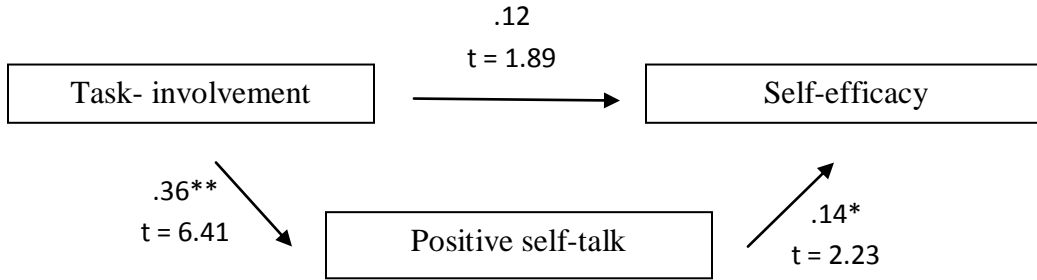


Figure 2. Panel A: the direct effect of task involvement on athletes' self-efficacy, and Panel B: The mediation effect of task-involvement affecting self-efficacy through positive self-talk, (\*\* $p < .01$ ,  $p < .05$ )

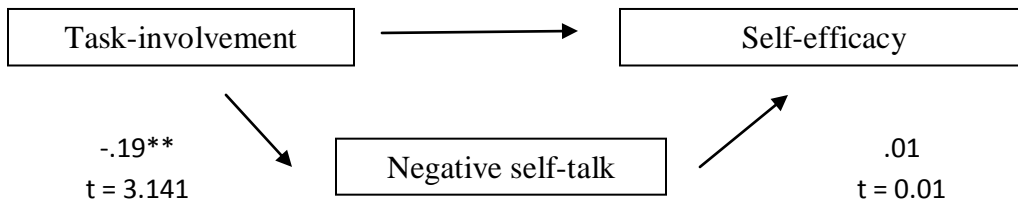


Figure 3. The mediation effect of task-involvement affecting self-efficacy through negative self-talk

## DISCUSSION

As we can see from the above mentioned review, the importance of the factors that influence self-talk and the outcomes of self-talk is evident. This research should provide more insight in how self-talk works and facilitate better understanding of the factors that shape them, so one could affect self-talks' outcomes. In this case, non performance based outcomes, such as self-efficacy. In our research we tried to provide better understanding of these relationships, hence in the future sport psychologists would be able to manipulate the antecedents in order to influence self-talk's outcomes. Research has shown that there has been lack of research considering the relevance of self-efficacy theory (Bandura, 1997) with the effectiveness of self-talk (Hardy, 2006). It has been shown that self-talk influences two specific motivational factors, namely self-efficacy and persistence. In addition, Zourbanos, Theodorakis, & Hatzigeorgiadis (2006) provided evidence for the influence that coaches' behavior has on athletes' cognitive processes, such as self-talk. As we know, there is a dearth of studies examining the relationship between motivational climate and self-talk; despite that self-talk is at the core of cognitive processes. In order to understand how self-talk works, it is imperative to investigate the role that antecedents play on shaping athletes' self-talk. In addition, with above mentioned being examined, we can understand what role self-talk plays on outcomes, such as self-efficacy, which in terms can influence performance. Research findings encourage the examination of the mediation of self-talk on the relationship between athletes' perceived motivational climate and self-efficacy beliefs, as previous studies have supported the important role of motivational climate in shaping cognition and also the effects of self-talk on self-efficacy. Therefore, the purpose of the current study was to investigate mediating role of self-talk on the relationship

between perceived motivational climate and athletes' self-efficacy beliefs. However, these hypotheses have not been tested simultaneously in a mediational model.

Thus, specifically, no studies to date investigated athletes' self-talk as a mediator on the relationship between coaches' motivational climate and athletes' self-efficacy beliefs. The sole study that examined the effectiveness of self-talk intervention on improving forehand drive performance, as well as self-efficacy in young tennis players was presented by Hatzigeorgiadis et al.(2008 ). Their study was important as it suggested that positive self-talk may increase self-efficacy, thus supporting Bandura's theory and Hardy's (2006) hypothesis that self-talk can be a source of self-efficacy. The results of the present study indicate that self-talk partially mediated the relationships between perceived motivational climate and athletes' self-efficacy beliefs. More specifically, in relation to the first hypothesis, athletes' positive self-talk was found to mediate the relationship between perceived task- involving climate and athletes' self-efficacy beliefs, accounted for 4.6% of variance and this model displayed considerable mediation. Our results support and combine previous findings regarding the role of motivational climate in shaping athletes' cognitive states, in particular self-talk, with findings suggesting that effective self-talk can have a beneficial effect on self-efficacy (Burnett, 1996; 1999). These results could indicated that task-involving climate was important for increases in athletes' use of positive self-talk, but also increases in their self-efficacy beliefs. Our findings are consistent with the literature findings that the use of self-talk improves self-efficacy (Hatzigeorgiadis et al., 2008). The positive significant relationship between positive self-talk and athletes' self-efficacy beliefs can be explained by the notion that athletes also use self-talk to improve their confidence (Gould et al.,1989). In addition, one of the sources of self-efficacy is considered to be verbal persuasion, where self-talk is considered as direct statements that serve to increase self-efficacy (Feltz &



Lirgg, 2001). Furthermore, our result supported Williams and Leffingwell's (2002.) findings that supportive coaching behaviors were positively related to self-confidence, whereas we can translate that to self-efficacy beliefs. Subsequently, extant literature suggests that creation of mastery motivation climate is likely to be important in optimizing positive responses (e.g., well-being, persistence) (Roberts & Ommundes, 2004). In accordance with previous motivational climate literature, the value of task-involving climate was confirmed as it is related positively to positive self-talk, and negatively to negative self-talk (Roberts et al., 1997, 2007).

Our confidence for self-talk's mediation was further increased with the observation of specific subscales of motivational climate. It allowed us to identify specific forms of motivational climate that are related to self-talk. Task-involving climate predicted changes in positive self-talk and ego-involving climate predicted changes in negative self-talk. Yet, meditational effect of negative self-talk was not obtained. Those athletes that perceived climate as more task-involving reported more use of positive self-talk, as consistent with literature findings (Zourbanos et al., 2010,2011).

According to the second hypothesis, the mediation of negative self-talk on the relationship between task- involvement and athletes' self-efficacy beliefs was not supported. The failure in the task involving –negative self-talk -self-efficacy model was due to the lack of relationship between negative self-talk and self-efficacy. This could be possibly attributed to the circumstantial motivating effects of negative self-talk that has been recognized in the literature. As Tod, Hardy & Oliver (2001) showed in their systematic review, research had proposed that different types of self talk ought to have differing, and at time contrasting performance effects (e.g. Van Raalte, Brewer, Rivera & Petitpas, 1994). They found that only 11 studies had investigated positive or negative self-talk in relation to performance and that given the common

belief that positive self talk is better than negative self-talk, it is surprising that only four studies to date have addressed this issues. They found that 40% of research had reported no performance differences between positive and negative self-talk. Currently available data suggest that negative self-talk may not have a detrimental effect on motor skill performance, as some researchers (e.g., J,Hardy, Hall, & Alexander,2001; Van Raalte et al.,1994) have tried to explain it in a sense that some athletes may interpret their negative self-talk as having motivational qualities (e.g. following a silly mistake, athletes may give themselves a “talking to”). Overall, an inconsistent effect was detected for the possible benefits of positive self-talk over the use of negative self-talk.

Our third and fourth hypothesis, regarding the mediational role of self-talk on the relationship between ego climate and self-efficacy, which was based on the assumption that ego-involving climate will negatively predict self-efficacy beliefs were not supported due to lack of relationship between ego-involving climate and self-efficacy beliefs. Our results showed that negative self-talk and ego-involving climate have been positively associated, which is consistent with the literature findings (Ntoumanis & Biddle, 1999). These perceptions of climate and coach’s role in shaping athletes’ self-talk has been previously recognized (Hardy, Oliver & Todd, 2009; Zourbanos, Theodorakis & Hatzigeorgiadis, 2006). In addition, we know that coaching behaviors impact athletes’ use of self-talk, in particular their negative coaching behaviors and endorsement of ego-involving climate are positively related to negative self-talk (Zourbanost et al.,2006; Zourbanos et al.,2010). As noted in the sparse literature, positive self-talk can enhance self-efficacy beliefs, yet no studies examined negative self-talk in that context. The lack of this relationship contributes to the inconsistency regarding the effects of ego-involving climate suggesting possibly the existence of moderating variable that could explain the

effect of ego-involving climate. Generally the literature supports the positive effects of task involving; but for the ego involving climate relationships are weak and/or inconsistent. There is sparse evidence about the relationship of involving climates and self-talk, yet according to Harwood, Cumming and Fletcher (2004) it is suggested that task orientation shows more adaptive relationship with thought patterns, whereas ego orientation is more dependable on other factors. Furthermore, it has been suggested that task-and ego-oriented athletes will most likely experience similar levels of performance-related worries; bar more research is needed as those involving ego orientation and ego-involving climate are inconsistent.

### **APPLICATIONS AND FUTURE DIRECTIONS**

Based on our study and in light of the existing literature, directions for future research can be suggested. The influence and facilitating effect of motivational climate on athletes' self-talk has been recognized, and shown that perceptions of motivational climate affect athletes' positive and negative self-talk. Although, it has been differentiated that athletes' employed self-talk varies from beginners (e.g. Ziegler, 1987) to more experienced and elite athletes (e.g. Mallet & Hanrahan, 1997), the results of some studies have shown that self-talk can be effective and useful in all stages of skill acquisition and performance enhancement (Hatzigeorgiadis et al., 2011). The practical importance of this study is clear. Teachers and parents should promote task-involving climate because this approach benefits both the person and society (Papaioannou et al., 2012). Taken together, it would seem that the empirical literature would support the contention that self-talk is beneficial for athletic performance.. The importance of positive thinking can be supported though applied sport psychology literature, where treatment programs direct towards cognitive restructuring by changing negative to positive self-talk are considered an important tool for applied sport psychologists and coaches (Zinsser et al., 2001). Future research should

aim to develop intervention programs that would improve coaches' behavior to implement more task oriented environment and would help coaches develop techniques in order to produce effective interpersonal environments. Very important is to identify factors that influence self-talk, personal, situational and socio-environmental factors are the key predicting variables (Zourbanos et al, 2007). Thus from this study it becomes apparent that coaches should be encouraged to adopt a supportive climate in the athlete-coach relationship. Zinsser et al. (2001) suggest that to promote athletes' self-talk coaches should encourage their athletes to use positive self-talk, reinforce their efforts and advice them to stay positive even when competition circumstances seen unfavorable. It is important to facilitate the development of intervention programs to regulate self-talk through manipulation of antecedents and to achieve desired cognitive and performance related outcomes. Finally, future research could examine this mediation using intervention, experimental or longitudinal design. Experimental research may show whether manipulating self-talk helps to regulate the relationship between the climate and self-efficacy or, alternatively, whether high and low self-efficacy beliefs receive differential support.

### **LIMITATIONS**

The first limitation of the current investigation concerns self-reported methodology. With regard to the assessment of self-talk, verbal reports are associated with cognitive processes that sometimes may be beyond meta-conscious control and thus cannot be described by the individual, may be forgotten or recalled inaccurately (Nisbett & Wilson, 1977). However, cognitive processes cannot be accurately assessed through external measures and the use of self-reports provide us with "meta-cognitive knowledge" which can help us understand perceptions, motives, and generally what someone is thinking (Guerrero, 2005). Therefore, we addressed the

assessment through verbal reports, but are aware that this could have hidden some other potential behaviors, but also athlete's self-talk. A second limitation would concern the recruitment procedure used. This suggests that if we did not recruit children who started playing for the certain team this season, it might change the correlation among the constructs, as with time they would have more experience and could assess the behavior of coaches and their perceptions more accurately. Further limitation concerns the use of the short version of the ASTQS which might have reduced the variability of the scoring and undermine the multidimensional nature of self-talk. We used this short version in order do to reduce the length of the questionnaire and facilitate the data collection process (e.g., lost training times; frustration of children)

## CONCLUSION

Nevertheless, despite the limitations presented above, the present study could be considered as a stepping stone for the future endeavors to understand influence of coaches' behavior on athletes' self-talk and their self-efficacy beliefs. In short, our findings suggest that motivational climate can influence positive and negative self-talk and that positive self-talk can enhance self-efficacy beliefs. Task for the future researchers would be investigating whether negative self-talk would hinder those self-efficacy beliefs. The results of this study may facilitate a better understanding of the self-talk phenomenon and guide further research regarding antecedents of self-talk. From the practical perspective, this study was based on the idea that as athletes are influenced by their coach, it is important to understand how his or her influence can affect athlete's way of thinking. That use of self-talk may influence self-efficacy belief outcomes can be speculated based on theoretical grounds of Bandura's (1997) models of self-talk antecedents. However, we gave partial support; therefore more research should be conducted. Nevertheless, considering that no previous research has examined this kind of relationships in sport, the present findings provide

valuable evidence regarding the interactive effects of motivational climate, athletes' self-talk and self-efficacy beliefs. Thus, we hope for this study will facilitate better understanding of the self-talk phenomenon.

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## APPENDIX

### SELF-TALK QUESTIONNAIRE - ASTQS

Σας παρακαλώ να προσδιορίσετε **πόσο συχνά** οι σκέψεις αυτές ή κάποια άλλη πέρασε από το μυαλό σας **κατά τη διάρκεια των προηγούμενων 3-4 εβδομάδων όταν παίζατε στη θέση σας**. Σας παρακαλώ να διαβάσετε προσεκτικά την κάθε πρόταση και να κυκλώσετε τον κατάλληλο αριθμό που αντιστοιχεί στην παρακάτω κλίμακα.

Κυκλώστε ποιά ήταν η πιο συνηθισμένη θέση που παίζατε **τις προηγούμενες 3-4 εβδομάδες**.

**Τερματοφύλακας**

**Αμυντικός**

**Μέσος**

**Επιθετικός**

	Πόσο συχνά οι σκέψεις αυτές πέρασαν από το μυαλό σας κατά τη διάρκεια των προηγούμενων 3-4 εβδομάδων όταν παίζατε στη θέση σας	Ποτέ	Σπάνια	Μερικές φορές	Συχνά	Πολύ συχνά
1.	Κάνατε σκέψεις για να εμπυχωώσετε τον εαυτό σας: π.χ., Βάλε τα δυνατά σου	1	2	3	4	5

2.	Κάνετε σκέψεις για να για να ελέγξετε τα συναισθήματά σας: π.χ., Ηρέμηση	1	2	3	4	5
3.	Κάνετε σκέψεις για να αποκτήσετε περισσότερη αυτοπεποίθηση: π.χ., Θα τα καταφέρω	1	2	3	4	5
4.	Κάνετε σκέψεις για να συγκεντρωθείτε: π.χ., Συγκεντρώσου στο παιχνίδι σου	1	2	3	4	5
5.	Κάνετε σκέψεις ανησυχίας: π.χ., Δε θα τα καταφέρω	1	2	3	4	5
6.	Κάνετε σκέψεις για να τα παρατήσετε: π.χ., Θέλω να σταματήσω	1	2	3	4	5
7.	Κάνετε σκέψεις κούρασης: π.χ., Είμαι κουρασμένος/ η	1	2	3	4	5
8.	Κάνετε σκέψεις άσχετες με το ποδόσφαιρο: π.χ., Σκέφτομαι τι θα κάνω αργότερα	1	2	3	4	5

## SELF-EFFICACY SCALE

Στο παρακάτω ερωτηματολόγιο κύκλωσε πόσο σίγουρος-η αισθανόσουν **τις προηγούμενες 3-4 εβδομάδες** ότι μπορούσες να πετύχεις τα παρακάτω **όταν παίζατε στη θέση σας**.

1. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να περάσεις τον αντίπαλο με ντρίπλα  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η
2. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να πασάρεις την μπάλα με ακρίβεια  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η
3. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να προκαλέσεις τον αντίπαλο για την μπάλα  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η
4. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να ξεγελάσεις τον αντίπαλο  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η
5. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να προστατέψεις την μπάλα  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η
6. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να κάνεις κεφαλιές με ακρίβεια  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η
7. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να κερδίσεις την μπάλα  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η
8. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να στηρίξεις την ομάδα κάτω από πίεση  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η
9. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να σουτάρεις  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η
10. Πόσο σίγουρος-η αισθανόσουν για την ικανότητά σου στο να προκαλέσεις και να κερδίσεις ένα φάουλ  

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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Καθόλου σίγουρος-η Απόλυτα σίγουρος-η

### MOTIVATIONAL CLIMATE

Αυτή η λίστα περιγράφει τι λένε ή τι κάνουν οι προπονητές στους παίκτες στην ομάδα τους. Όταν δίνεις τις απαντήσεις σου, σκέψου σχετικά με το τι λέει ή κάνει κανονικά **ο κύριος προπονητής σου**. Τι νομίζεις ότι γίνεται στην ομάδα σου τον περισσότερο χρόνο κατά τη διάρκεια των **τελευταίων 3-4 εβδομάδων**; Ο κύριος προπονητής σου τι είδους ατμόσφαιρα δημιουργεί συνήθως **τις τελευταίες 3-4 εβδομάδες**;

Όταν συμπληρώνεις αυτές τις ερωτήσεις, σκέψου σχετικά με το πώς συμπεριφερόταν στην ομάδα σου κατά τη διάρκεια των τελευταίων 3-4 εβδομάδων.	Διαφωνώ Απόλυτα	Διαφωνώ	Ούτε Συμφωνώ Ούτε Διαφωνώ	Συμφωνώ	Συμφωνώ Απόλυτα
1. Ο προπονητής μου ενθάρρυνε τους παίκτες να δοκιμάσουν νέες ασκήσεις.	1	2	3	4	5
2. Ο προπονητής μου προσπαθούσε να βεβαιώνεται πως οι παίκτες ένιωθαν καλά όταν προσπαθούσαν το καλύτερό τους.	1	2	3	4	5
3. Ο προπονητής αντικαθιστούσε τους παίκτες όταν έκαναν λάθη.	1	2	3	4	5
4. Ο προπονητής μου πρόσεχε περισσότερο τους καλύτερους παίκτες.	1	2	3	4	5
5. Ο προπονητής μου φώναζε στους παίκτες όταν τα θαλάσσωσαν.	1	2	3	4	5
6. Ο προπονητής μου βεβαιωνόταν πως οι παίκτες ένιωθαν επιτυχημένοι όταν βελτιώνονταν.	1	2	3	4	5
7. Ο προπονητής μου αναγνώριζε τους παίκτες που προσπαθούσαν σκληρά.	1	2	3	4	5
8. Ο προπονητής μου βεβαιωνόταν πως κάθε παίκτης συνεισέφερε με ένα σημαντικό τρόπο.	1	2	3	4	5
9. Ο προπονητής μου είχε τους αγαπημένους του/της παίκτες.	1	2	3	4	5
10. Ο προπονητής μου επαινούσε μόνο τους παίκτες που απέδιδαν το μέγιστο κατά την διάρκεια του αγώνα.	1	2	3	4	5
11. Ο προπονητής μου βεβαιωνόταν πως όλοι είχαν ένα σημαντικό ρόλο στην ομάδα.	1	2	3	4	5
12. Ο προπονητής μου πίστευε πως μόνο οι καλύτεροι παίκτες θα έπρεπε να παίζουν σε αγώνα.	1	2	3	4	5
13. Ο προπονητής μου μας άφηνε να καταλάβουμε πως όλοι οι παίκτες αποτελούσαν μέρος της επιτυχίας της ομάδας.	1	2	3	4	5
14. Ο προπονητής μου ενθάρρυνε τους παίκτες να βοηθούν ο ένας τον άλλον να μαθαίνουν.	1	2	3	4	5
15. Ο προπονητής μου ευνοούσε κάποιους παίκτες περισσότερο από άλλους.	1	2	3	4	5
16. Ο προπονητής μου ενθάρρυνε τους παίκτες να δουλέψουν πραγματικά μαζί σαν ομάδα.	1	2	3	4	5



**Ευχαριστούμε πολύ για τη συνεργασία σας!**