

## **Coaching under pressure: mental skills training for sports coaches**

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Running Head: MENTAL SKILLS TRAINING FOR COACHES

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## Abstract

While athletes have benefitted from systematic Mental Skills Training (MST) (e.g., Thelwell & Greenlees, 2001), there is little evidence of such programmes existing for sports coaches, despite coaches being considered performers too (Frey, 2007). This study involved the development, implementation, and evaluation of a "Coaching under Pressure" MST programme, aimed at enhancing coaches' ability to cope with stressors and coach effectively in 'stressful' situations. Five coaches from one of Great Britain's most successful sporting universities (British Universities and Colleges Sport rankings) participated in a six-week MST intervention programme. Coaches' use of mental skills (MSQ), perceptions of precompetition state anxiety (CSAI-2md), and coping abilities (MCOPE) were assessed before and after the series of workshops. While statistical significance was only found for a small number of the observed variables, the practical significance of the intervention for coaches was highlighted via a social validation questionnaire. Specifically, coaches described positive changes in their coaching performance as a result of the intervention. The findings have implications for the development of coach education programmes, and for sport organisations that must be aware of the stressors involved in coaching and ensure that coaches have access to relevant, research informed, MST at all stages of their careers.

## Introduction

Sports coaches are increasingly regarded as performers in their own right (Thelwell et al. 2008a). Although elite coaches perform in somewhat different ways to their athletes, they still have to plan meticulously for training and competition, execute training plans with the flexibility to adapt in competitive situations, and cope with the stressors of the intense competition, the intrusion of the media, and the pressure to produce results. It is little wonder that coaching in sport is now well established as an occupation with the potential to cause considerable strain (Olusoga et al., 2010). Indeed, previous research has identified stressors from organisational (e.g., managerial conflict, lack of financial assistance, role conflict), competitive (e.g., managing athlete needs, professionalism, selection issues), and personal (e.g., sacrificing personal time) sources (e.g., Frey, 2007; Olusoga et al., 2010; Thelwell et al., 2008). Furthermore, the consequences of experiencing stress can also be severe with coaches describing emotional exhaustion, depression, and withdrawal from sport as effects of stress (Frey, 2007; Olusoga et al., 2010).

Competition and organisational stress has long been an issue for applied sport psychologists working with sports performers, and this is reflected in the amount of research literature dedicated to the development and evaluation of MST training packages and interventions (cf., Brewer & Shillinglaw, 1992; Daw & Burton, 1994; Hanton & Jones, 1999; Patrick & Hrycaiko, 1998; Savoy, 1993; Shoenfelt & Griffith, 2008; Thelwell & Greenlees, 2001, 2003). Psychological factors certainly play a role in athletic success. Indeed, Eccles et al. (2012) described a theoretical framework for the self-regulation of athletes' emotional states, which suggested that psychological skills (e.g., goal-setting, relaxation, imagery, and self-talk) are required to enhance psychological abilities (e.g., the ability to relax). These psychological abilities allow performers to achieve optimal mental states for the tasks they engage in, and evidence suggests that systematic MST can enhance athletes' ability to use

psychological skills in stressful competitive settings (Daw & Burton, 1994). For example, Brewer and Shillinglaw (1992) found that participants in a series of four psychological skills training workshops improved their knowledge of psychological skills, placed more importance on these skills, and used them more frequently after the intervention. Daw and Burton (1994) used case studies to assess the effectiveness of a MST intervention aimed specifically at goal-setting, imagery, and arousal regulation for collegiate tennis athletes and again found improvements on several cognitive and performance variables (including state and trait measures of confidence and anxiety). Similarly, Hanton and Jones (1999) demonstrated that swimmers' directional interpretation of anxiety symptoms became more facilitative following an MST intervention focused on goal-setting, imagery, and self-talk.

Using a single subject design, Thelwell and Greenlees (2001) explored the effectiveness of a MST package (including goal-setting, relaxation, imagery, and self-talk) on gymnasium triathlon performance. Results again demonstrated the efficacy of MST, with all five participants increasing their use of mental skills and improving their triathlon performance. More recently, Shoenfelt and Griffith (2008) also demonstrated that MST might be useful for improving specific elements of performance. Their MST programme, delivered to participants in eight 1-hour sessions over a 2-week period, included relaxation, goal-setting, imagery, attentional focus, behavioural modelling, and pre-performance routines. Although results demonstrated that the MST intervention appeared, generally, to improve service accuracy in a group of 11 intercollegiate volleyball players, the specific skills of imagery ( $r=0.82$ ) and the use of pre-performance routines ( $r=0.75$ ) were positively correlated with higher percentage of accurate serves.

Taken together, these findings certainly indicate that MST can have a beneficial impact on performers' awareness, knowledge, and use of psychological skills, as well as their performance in competitive situations. Indeed, there is a wealth of literature regarding the

use of mental skills to enhance athletic performance and modify athletes' perceptions. However, sports coaches too, must be able to manage stressors and perform their roles when under pressure, a fact reflected in the current glut of research exploring the stress experiences of coaches at various levels (e.g., Frey, 2007; Olusoga et al., 2009; Thelwell et al., 2008). Research that has focused on coaches' use of psychological skills (e.g., hall & rogers, 1989), has tended to explore how coaches use these skills with their athletes, rather than to improve their own coaching 'performance'.

Taylor (1992) commented on the "growing concern" over stress in sports coaching (p.27) and outlined a five-step process for developing stress management interventions for coaches. Specifically, after identifying the stressors that coaches encounter and the symptomology displayed (i.e., the ways in which coaches respond to stress), Taylor advocated the use of cognitive, behavioural, and emotional/psychological coping skills with coaches, including relaxation training and cognitive restructuring. Yet despite coaches at various levels being considered as performers in their own right, and several studies that attest to the array of stressors that coaches experience (e.g., Fletcher & Scott, 2010; Olusoga et al., 2010; Thelwell et al., 2008b), there is a paucity of research detailing the development or evaluating the effectiveness of MST for coaches.

Olusoga et al. (2012) interviewed coaches from one of Great Britain's most successful Olympic teams about the factors perceived to be important in world-class sports coaching. In discussing the importance of training and development for coaches on the pathway to elite sport, one coach specifically explained that, "if we really want to lay the foundations for long-term success in sport, then we have to take the education of our coaches more seriously." The purpose of the present study, therefore, was to use the information garnered from successful Olympic coaches (Olusoga et al., 2012) to design, develop, implement, and evaluate a MST intervention package aimed at enhancing coaches' ability to coach under

pressure. Specifically, the intervention was designed to help coaches on the pathway to elite sports coaching develop the skills, attributes and elements of preparation that had helped experienced Olympic coaches achieve success in a highly pressurised environment.

## **Method**

### **Development of the Programme**

Based on an extensive research programme exploring world class coaches' experiences of stress (Olusoga et al., 2009, 2010, 2012) the MST intervention programme for the present study was designed to help coaches operate successfully and effectively when under pressure. Specifically, six workshops were developed, aimed at encouraging coaches to utilise various psychological skills, targeting areas deemed essential by highly successful Olympic coaches (e.g., emotional control, communication, confidence; Olusoga et al., 2012). While researchers have illustrated the efficacy and effectiveness of mental skills such as goal-setting (Ward & Carnes, 2002), imagery (Shambrook & Bull, 1996), relaxation (Bull, 1989), and positive self-talk (Tod, Hardy, & Oliver, 2011), Blakeslee and Goff (2007) suggested that combining skills into comprehensive MST "packages" might be advantageous, particularly in a group setting, not only in terms of resource and time management, but also team bonding. Indeed, several researchers have demonstrated the efficacy and effectiveness of multimodal intervention packages that combined several psychological skills (e.g., Brewer & Shillinglaw, 1992; Thelwell & Greenlees, 2001, 2003). Thus, the approach taken within this study was to combine several mental skills into a six week intervention 'package' (see Appendix).

A combination of different approaches was taken by the Sport Psychology Consultant (SPC) in the delivery of the workshops. Specifically, an educational approach was taken to briefly present a rationale for the workshops and the themes that had been identified as important for them (Olusoga et al., 2012). Further, one of the aims of the programme was to educate coaches about the various psychological skills that they could use (e.g., cognitive

restructuring, relaxation) and to provide examples of how these skills can result in improved performance. A cognitive-behavioural framework also influenced the delivery of the intervention. This approach typically involves understanding the concerns of the client (e.g., I get nervous before an important competition), while exploring their thoughts (e.g., positive and negative expectations) and behaviours (e.g., rapid speech). For example, in Workshop 1 (see Appendix) coaches were encouraged to think about how their stress related thoughts and feelings might influence their subsequent behaviours in positive or negative ways. From a cognitive-behavioural perspective, coaches were encouraged to explore and challenge irrational stress related thinking (e.g., Workshop 3).

Although the themes for each session were developed based on previous literature, it was essential that the SPC also adopted a client-centred approach so that the coaches could take ownership of the intervention. Specifically, coaches were allowed and, indeed, encouraged to discuss and explore relevant issues that were of significance to them as individuals and as a group. As such, to ensure that the workshop content was relevant for them, coaches were reminded and encouraged throughout each workshop to explore their personal experiences of coaching in general, as well as experiences of stress and its influence on their thoughts and behaviours.

As coaches at various levels have previously described a combination of somatic and cognitive responses to their stress experiences (e.g., Frey, 2007; Olusoga et al., 2010), and because relaxation strategies have been linked with an increased ability to concentrate on task-relevant processes (Hanton & Jones, 1999), it was deemed important that cognitive and somatic relaxation strategies should form part of the MST intervention. Athletes have reported that while the primary functions of relaxation are to cope with competition anxiety and to promote recovery, relaxation is also used to cope with 'everyday' anxieties (Kudlackova, Eccles, & Dieffenbach, 2013). Coaches, who have described competitive,



organisational, and personal stressors (Olusoga et al., 2010), might also use relaxation strategies and skills for multiple purposes. Indeed, Thelwell et al. (2008a) found that coaches did use relaxation skills in practice and competition settings to improve communication with their athletes and to help cope with poor training sessions and to reduce tension. As such coaches in the present study were taken through a six-stage programme of Applied Relaxation (AR; Ost, 1988) spanning the duration of the intervention period and underpinning the cognitive strategies that formed the basis for each workshop. The main purpose of this was to train coaches to be able to attain a state of physical relaxation in a variety of situations.

## **Evaluation of the MST Programme**

### **Participants.**

With institutional ethics approval, five coaches (all men) aged between 31 and 38 years ( $34.2 \pm 2.8$  years) participated voluntarily in the study. Coaches had between seven and 18 years ( $10.6 \pm 4.3$  years) experience coaching, and represented three sports (field hockey, rugby union, and triathlon). For coaches to meet the specific criteria of the study they were required to hold a National Governing Body (NGB) Level 2 coaching certificate (minimum) and have coached an athlete or team in at least national league level competition in their chosen sport. In addition, four of the five coaches had coached athletes at either junior or senior international level, or in international student competition. The delivery of the workshops series coincided with the first half of the British Universities competitive season for four of the coaches. The triathlon coach had come to the end of his athletes' competitive season.

### **Measures.**

#### ***Demographic information.***

The workshop registration form for coaches requested demographic information (age, coaching qualifications, total number of years of coaching experience, current level of coaching, and the highest level of competition they had experience of coaching at). This registration form was included in the preliminary information sent to coaches prior to the start of the first workshop.

### ***Mental Skills Questionnaire.***

The Mental Skills Questionnaire (MSQ; Bull, Albinson, & Shambrook, 1996) is a 28-item self-report questionnaire designed to assess the mental skills that respondents currently use. The MSQ is used primarily as an applied tool because its psychometric properties are not as strong as a research based inventory. However, being more readily adaptable to coaching populations, it was felt that to gain an understanding of coaches' current use of mental skills, the MSQ was an appropriate measure to employ. Participants are asked to rate their agreement with a series of statements (e.g., "I suffer from a lack of confidence about my performance") by responding on a six point likert-type scale (1 = strongly disagree; 6 = strongly agree). The MSQ comprises seven subscales (*imagery ability, mental preparation, self-confidence, anxiety and worry management, concentration ability, relaxation ability, motivation*) with four statements related to each. The MSQ was modified from its original version to reflect its use here with coaches rather than athletes. Specifically, the wording of item 25 was changed from "At competitions I am usually psyched enough to compete well", to "At competitions, I am usually psyched enough to perform my coaching role well".

### ***Competitive State Anxiety Inventory-2/modified.***

The Competitive State Anxiety Inventory-2/modified (CSAI-2md; Jones & Swain, 1992) is a 27-item self-report inventory designed to measure state anxiety in competitive situations. The CSAI-2md comprises three subscales measuring pre-performance cognitive anxiety, somatic anxiety, and self-confidence, with nine items in each subscale. Participants

are asked to respond by rating the intensity of each symptom (e.g., "I feel concerned about losing") on a scale of 1 (not at all) to 4 (very much so), resulting in subscale scores of between 9 and 36. In addition to indicating intensity, respondents are asked to indicate the degree to which the experienced intensity of each symptom is perceived as facilitative or debilitating towards their performance. Participants respond on a seven point likert-type scale ranging from -3 (very debilitating) to +3 (very facilitative). Possible subscale scores therefore range from -27 to +27 with a positive score indicating a facilitative effect on performance.

#### ***Modified COPE.***

The modified version of the COPE inventory (MCOPE) was developed to more accurately assess situational based coping in physical activity settings. MCOPE consists of nine of the original COPE scales, and three additional scales relevant to sport and based on previous research (Crocker, Kowalski, & Graham, 1995). Each of the subscales consists of four items giving a total of 48 items.

Respondents are asked to think of a situation that they have encountered and to read a series of statements about the various coping strategies that they may or may not have employed to cope with the situation (e.g., "I tried talking to someone about how I felt"). Participants indicate on a five point likert-type scale the degree to which they used that particular strategy (1 = used very little or not at all; 5 = used very much). Subscale scores therefore range from 4 to 20. A second scale of "Coping Effectiveness" is also included. Participants are asked to rate how effective they felt each coping strategy was in helping them handle the situation, again on a five point scale (1 = Extremely ineffective; 5 = Extremely effective), with subscale scores again ranging from 4 to 20.

#### ***Social validation questionnaire.***

A social validation questionnaire (SVQ) was administered to coaches at the completion of the workshop series to gain information regarding participants' feelings towards the workshops they had completed. The questionnaire was designed to assess the importance of the study and the perceived effectiveness of the intervention programme (Thelwell & Greenlees, 2003). Participants were asked to answer four questions: After completing the Coaching under Pressure MST programme: (a) How important do you feel it is to be mentally prepared for the demands of coaching?; (b) Do you consider any changes in your coaching performance to be significant?; (c) How satisfied were you with the workshop programme?; and (d) Did the programme prove useful for you? Participants answered on seven-point Likert-type rating scales with responses ranging from 1 (not at all important/useful/significant/satisfied) to 7 (extremely important/useful/significant/satisfied). Coaches were also asked to answer four open ended questions about their perceptions of the programme as a whole: (a) If you feel that taking part in the programme has contributed to enhancing or hindering your coaching performance, can you state why you feel this to be the case?; (b) What do you feel were the most beneficial aspects of the programme and why?; (c) Which skills did you find most difficult to learn/practice and why?; and (d) If you could change anything about the programme, what would that be?

### **Procedure.**

Coaches were recruited by contacting the Deputy Director of Sport (Coaching and Performance) at a UK University. Information about the workshops was provided and a registration form for interested coaches was also supplied. Coaches were also informed that the workshop was to be evaluated as part of a research study, although it was made clear that the workshops, not the coaches, were subject to evaluation. Five coaches agreed to participate in the study. Dates and times for the workshops (each lasting around 90 minutes) were arranged via the Coaching Services Administrator, and were scheduled to take place weekly

for a 6 week period. The SPC running the workshops was BASES (British Association of Sport & Exercise Science) Accredited, held Chartered status with the BPS (British Psychological Society), and also had two years of post-training consultancy experience.

Before the first workshop, coaches were asked to complete a pre-workshop questionnaire pack which included the MSQ, CSAI-2md, and MCOPE questionnaires. Specific instructions were attached to each questionnaire. Coaches were asked to fill in the CSAI-2md and MCOPE questionnaires retrospectively (i.e., to consider the last important event or competition that they had coached in, when responding to the questionnaire items). At the end of the workshop series, coaches were asked to complete a social validation questionnaire to give their thoughts on the workshop series. To obtain post-intervention questionnaire data, coaches completed a second set of questionnaires immediately after their first competition following the workshop series. All coaches returned the post-intervention questionnaires within six weeks of the end of the final workshop.

### **Data analysis.**

Because of the small sample size ( $n=5$ ), parametric tests were considered unsuitable (Coolican, 2014). As such, Wilcoxon Signed-Ranks tests were used to identify differences between PRE and POST subscale scores on each of the relevant questionnaires. Effect sizes were also calculated to judge the meaningfulness of any observed differences. Cohen (1988) suggests that  $r=.10$  represents a small effect size,  $r=.30$  represents a medium effect size, and  $r=.50$  a large effect size. These guidelines were followed in the interpretation of data in the present study. For the first part of the SVQ, mean scores were calculated for coaches responses to the four response scale questions. For the open-ended questions, coaches' responses are presented using thick descriptive quotes which represent common themes.

## **Results**

The results of this evaluation are presented in two sections. The first section reports the findings from analysis of the pre- and post-intervention questionnaire data. Medians, standard errors, and effect sizes were calculated and are presented in table 1. The second section examines the data from the SVQs in which coaches discussed their perceptions of the Coaching under Pressure MST programme.

## **Analysis of Questionnaire Data**

### **MSQ.**

Coaches' scores on the subscales of anxiety/worry management, concentration, and motivation, all showed slight decreases. However, their scores for imagery, mental preparation, self-confidence, and relaxation all increased from the pre- to the post-intervention evaluations, indicating that coaches rated themselves as better at these skills after the intervention (see Table 1). Wilcoxon Signed-Ranks revealed no significant differences were found between pre- and post-evaluation scores for imagery, mental preparation, anxiety/worry management, concentration, or motivation, although analysis of the data indicated that coaches self-reported ability to relax was significantly higher after the intervention ( $Mdn=19$ ), than before the intervention ( $Mdn=15$ ),  $z=-2.032$ ,  $p=0.021$  (one-tailed),  $r=0.64$ . Further coaches scores on the self-confidence subscale of the MSQ were also significantly higher post-intervention ( $Mdn=18.0$ ) than pre-intervention ( $Mdn=15.0$ ),  $z=-1.826$ ,  $p=0.034$  (one-tailed),  $r=0.58$ .

### **CSAI-2md.**

Coaches' median scores for the intensity of somatic anxiety decreased from pre- to post-intervention measurement, and coaches' self-confidence also showed a slight decrease. The median score for cognitive anxiety did not change from pre- to post-intervention. For the coaches' intensity scores on the CSAI-2md, no significant differences were found between pre- and post-intervention evaluation cognitive anxiety and self-confidence subscales. However, the intensity of coaches' pre-competition somatic anxiety was significantly higher

pre-intervention (Mdn=18.0), when compared with post-intervention (Mdn=16),  $z=-1.826$ ,  $p=0.034$ (one-tailed),  $r=0.58$ . For the directional interpretation scores, coaches appeared to perceive their somatic anxiety and self-confidence as more facilitative towards performance post-intervention, while cognitive anxiety showed a trend in the opposite direction, becoming perceived as slightly less facilitative. However, while coaches perceived that their somatic anxiety and self-confidence became more facilitative, no statistically significant differences were found.

### **MCOPE.**

Results suggested that coaches used the suppression of competing activities, venting, and humour to a greater extent after the Coaching under Pressure workshops than they had before the intervention. There was no change in coaches' use of effort, denial or instrumental support, but seeking social support for emotional reasons, behavioural disengagement, self-blame, planning, active coping, and wishful thinking were all used less after the intervention period. Results indicated that coaches used self-blame as a coping strategy significantly less after the Coaching under Pressure workshops (Mdn=12.0) than before (Mdn=13),  $z=-2.041$ ,  $p=0.041$ (two-tailed),  $r=0.65$ . No significant differences were found on any other of the MCOPE subscales.

### **MCOPE Effectiveness Scale.**

Wishful thinking was perceived by coaches to be a slightly less effective coping strategy after the Coaching under Pressure workshops. There was no reported change in the perceived effectiveness of venting, humour, and denial, but seeking social support for instrumental and for emotional reasons, behavioural disengagement, self-blame, planning, suppression of competing activities, effort, and active coping, were all perceived as more effective coping strategies. However, no statistically significant differences were found between coaches' pre- and post-intervention MCOPE Effectiveness subscale scores.

### **Analysis of Social Validation Questionnaire Data.**

Fundamental to applied sport psychology is the need to evaluate applied practice (Andersen, Miles, Mahoney, & Robinson, 2002). While questionnaires were employed to note any significant changes in coaches' self-reported use of mental skills, experience of competitive anxiety, and use of coping strategies, in accordance with Kelly's (1955) Personal Construct Theory, feedback should also be gathered regarding participants' satisfaction with and perceptions of the intervention. For the first part of the Social Validation Questionnaire Coaches were asked to respond to a series of statements about the intervention on a likert-type scale (e.g., 0 = *not at all important for me* to 7 = *extremely important for me*). For the second part, coaches were asked a series of open ended questions about their participation in the Coaching under Pressure workshops and their perceptions of the programme as a whole. Here, a deductive approach was taken and the questions asked formed a priori themes (Patton, 2002).

Coaches' post-intervention evaluations indicated that being mentally prepared for the demands of coaching was important to them (M=6.4) Coaches also suggested that changes in their coaching performance were significant (M=5.2), that they were satisfied with the Coaching under Pressure MST programme (M=6.2), and found attending the workshops useful for their coaching development (M=6.0).

In response to the open-ended questions, coaches felt that taking part in the programme had helped their coaching performance by giving them "techniques to keep focussed, stay in the moment and be positive". Three coaches also suggested that having time to reflect on their performance was extremely helpful, while one coach explained how the intervention had helped him to pay more attention to his own mental preparation:



It made me realise that I need to look after myself more and use all the performance skills that I encourage in my athletes. Too often I am too focused on them and not paying anywhere near enough attention to myself.

Coaches were also asked about what they felt were the most beneficial aspects of the programme. All five coaches discussed the benefits of "sharing practices and experiences with colleagues", while three coaches discussed how beneficial the relaxation training had been for them. One coach also reiterated the importance of self-confidence for coaching, stating "...the building of self-confidence and positive self-talk. The sheet we went through for reframing negative thoughts I thought was excellent and have shared it with my athletes."

When asked about which aspect of the course was the most difficult to learn/practise, all five coaches explained that going through the programme of Applied Relaxation was the most challenging. One coach explained that "in terms of new skills, the relaxation technique was difficult because it was completely new so was very time consuming to begin with." Another discussed the fact that he found it difficult to "learn how to release muscular tension in [his] body," because he was "so used to being tense."

In terms of what coaches would change about the programme, only two coaches responded. One coach suggested that the course "could have been done over a longer period of time to allow for more development of skills/ideas." Again, this coach highlighted the benefits of coach interaction, suggesting that a longer course would have "allowed coaches to feed back to each other more and challenge each other more." The other coach who responded to this question explained how he would have liked "more information reported from high-level/Olympic coaches to reinforce personally why we do what we do."

## **Discussion and Conclusions**

Coaches have been the beneficiaries of an increased amount of research attention dedicated to exploring coaching stressors, coping strategies, and psychological skills use (e.g., Frey 2007; Olusoga et al., 2010; Thelwell et al., 2008). Nevertheless, while a significant amount of research has investigated the development and evaluation of MST training packages and interventions for athletes, the same value does not seem to have been placed on MST for coaches, despite Taylor's (1992) concern over managing stress in the coaching role. The purpose of this study was to outline the design, development, delivery, and evaluation of a MST programme aimed at helping sports coaches develop the psychological skills and attributes identified as essential for coaching in pressurised, stressful situations (Olusoga et al., 2012).

Results suggested that coaches experienced positive changes in their perceptions of their ability to coach effectively under pressure. Perhaps the most pronounced change in coaches over the intervention period was their ability to relax. While the MSQ indicated that the coaches' relaxation skills improved, the CSAI-2md also suggested that coaches were effectively using these skills in competition situations. Specifically, the perceived intensity of somatic anxiety symptoms during competition was significantly lower for coaches after the intervention period. Although coaches had suggested, via the SVQ, that the Applied Relaxation component had been the most difficult to practise and learn, the findings indicate that this might also have had the biggest impact on coaches. Given the importance afforded to confidence by coaches in previous literature (Olusoga et al., 2012), and the role of coach efficacy in coaching performance (Feltz et al., 1999), it was pleasing to see that both the MSQ and the modified CSAI-2 indicated positive changes in coaches self-confidence, and that large effect sizes were reported.

Consistent with a process-oriented approach to coping (Lazarus & Folkman, 1984), analysis of the MCOPE questionnaire data revealed that coaches used a variety of coping

strategies to manage the stressors they encountered in their coaching roles. However, the only statistically significant changes in the coping strategies used before and after the intervention was that self-blame was used less frequently post-intervention. In terms of coping effectiveness, the data did suggest some positive trends were apparent. Specifically, each of the coping strategies (with the exceptions of suppression of competing activities, humour, and wishful thinking) was perceived by coaches as being more effective after the MST programme.

In applied settings, typical measurement scales consisting of preselected items might not be relevant for all individuals. This quantitative, nomothetic approach to research may not, therefore, be appropriate for evaluating the effectiveness of a MST programme. Daw and Burton (1994) , however, suggested that while statistical significance is sought to reassure researchers that observed results were not simply due to chance, the importance of practical significance (i.e., how beneficial the participants perceive that the intervention, or the learning of a particular skill was in enhancing their performance) should not be underestimated. In the present study, the practical significance of the Coaching under Pressure MST programme was highlighted by coaches through the SVQ. Specifically, having time to reflect, sharing experiences and best practice with other coaches, building self-confidence, and developing the ability to physically relax when encountering stressors were all highlighted as beneficial aspects of the programme for coaches. Furthermore, coaches indicated that they had experienced positive changes in their coaching performance, that they had been satisfied with the MST programme, that the programme was useful, and that they understood the importance of being mentally prepared for the demands of coaching.

Part of the success of the workshops in the present study was undoubtedly due to the coaches' willingness and, indeed eagerness, to share their own experiences and stories. Indeed, frequent discussion and interaction with peers and colleagues has been highlighted as a vital

aspect of coach development (Gilbert, Côté, & Mallett, 2006). As such, it was considered important that this MST programme was carried out in a group setting to allow a greater degree of coach interaction than in a one-to-one consultancy. The findings provide support for the effectiveness of group-based MST interventions (e.g., Blakeslee & Goff 2007), but experienced coaches must be willing to share their experiences and be open and honest about their own practices if other coaches are to benefit from this wealth of experience.

Another of the study's strengths was the strong evidence base and rationale for the material included in the workshop programme. Existing literature on the use of mental skills to enhance performance and develop adaptive cognitions was also taken into consideration in the design of each workshop. As such, a comprehensive MST programme aimed at developing coaches' abilities, skills, and psychological attributes, in areas that had been identified as important by a group of extremely successful Olympic coaches (Olusoga et al., 2012) was developed.

This study also faced a number of challenges inherent in conducting research in real-world settings and there were, therefore, several limitations. First, the small sample size and subsequent lack of a control group mean that the results should be interpreted with a degree of caution. Specifically, without a control group, it is difficult to say with certainty that results were solely due to the efficacy of the MST programme. The coaches may have developed their psychological skills naturally through the process of engaging with their teams, athletes, and colleagues over the time of the intervention. Second, intervention research has been criticised for a lack of follow-up assessments that allow retention effects to be assessed (Hanton & Jones, 1999). Unfortunately, practical constraints did not allow any further data collection to take place after the post-intervention evaluation. Future research evaluating MST for coaches should not only include a control and/or placebo group, but should also certainly incorporate follow-up assessments into the study design. Although

single-subject designs with multiple baselines are a common and effective way of measuring the efficacy of MST programmes (e.g., Thelwell & Greenlees, 2001, 2003), it was deemed by the research team that, due to the potential benefits of coach interaction, the intervention in the present study be delivered to all participants at the same time.

Although the advantages of the group workshop delivery have already been outlined, including follow-up one-to-one sessions with coaches to discuss individual issues in greater depth would have been beneficial. Having time to discuss, for example, cognitive restructuring strategies, issues with relaxation techniques, and confidence building strategies on an individual basis might have been of benefit for the coaches. However, as outlined by Brewer and Shillinglaw (1992), financial, temporal, and practical constraints, (e.g., the availability of consultants), might preclude the use of one-to-one consultancy in the delivery of MST programmes such as the one employed in this study. Additional research with larger sample sizes might evaluate different modes of MST delivery with sports coaches.

Future research should also consider the measures used to assess the efficacy of the training programme. For example, in this study, coaches completed the CSAI2-md while reflecting on a previous performance. The post-intervention CSAI2-md was completed immediately after a coaching performance. It is possible that the different retrospective time periods involved might have influenced the coaches' perceptions of their pre-competition anxiety, pre- and post-intervention. Moreover, for athletes, performance measures are usually readily available (e.g., race-times, scores, win-loss ratio). For coaches, while behavioural measures (e.g., Coaching Behaviour Assessment System; Smoll & Smith, 1980) and indicators of leadership style (e.g., LEadership Scale for Sport; Chelladurai & Riemer, 1998) exist, more objective measures of coaching *performance* are virtually non-existent. Attempts to assess coaching performance via athlete performance are problematic by virtue of the fact that the coaches' athletes are ultimately responsible for how fast they run or how many points

are scored. More subjective measures such as athletes' perceptions of any changes in overt coach behaviours might be a possible way forward. The recently developed Coaching Success Questionnaire - 2 (CSQ; Gillham, Burton, & Gillham, 2013)) includes subscales for Self-Confidence, Wellness, Skills & Strategies, Winning, and Emotion Management, and could prove useful in evaluating overall coaching 'performance'.

The findings of the present study indicated that a Coaching under Pressure MST programme for coaches, including Applied Relaxation, cognitive restructuring, confidence-building exercises, and communication strategies, had a positive impact on the coaches who took part in the workshops. At an individual level, sports coaches have a number of responsibilities. First, experienced coaches must be aware of how much they can contribute to the development of younger, less experienced coaches and be encouraged to do so by the culture of the organisations they work within. Second, coaches must be encouraged to consider themselves as performers in their own right, and, as one of the coaches in the present study asserted, "use all the performance skills that [they] encourage in [their] athletes." While the sport psychology literature has long since reached this conclusion, there is still a perception among coaches that the sport psychologist should work predominantly with and for the athlete rather than the coach, despite the importance clearly afforded to psychological attributes in coaching (Olusoga et al., 2012; Thelwell et al., 2008a). In this regard, the sport organisation also has an important role to play. While mandatory MST for coaches is probably unwise (coaches are more likely to engage if they choose to participate), it is perhaps the job of the sport organisation to encourage coaches to see themselves as performers and to prepare for the rigours of competition as such. In doing so, National Governing Bodies (NGBs) must be willing to remove some of the barriers that appear to prevent coaches from accessing psychological support. In particular, there still exists a culture in which seeking support from a sport psychologist might be viewed as a sign of

weakness, especially in the competitive workplace environment (Olusoga et al., 2010). At the policy level, NGBs and other sports organisations must ensure that psychological development and support for their coaching staff is embedded within their coach education and development programmes, rather than seen as additional and optional CPD opportunity. The importance of other coaches for the development of younger, less experienced coaches has been outlined by several authors (e.g., Bloom, Durand-Bush, & Salmela, 1997; Nash & Sproule, 2009). Organisations must foster a culture where coaches are encouraged to share their experiences, their best practice, and their stories. The responsibility here lies with individual coaches and at the feet of sport organisations, but it is important that a 'big picture' mentality is developed. Best practice should be shared not only within sport organisations, but also across different sports.

The implications for applied sport psychology practitioners should also be considered. First, sport psychology consultants must be aware of the organisational and competitive influences on sports coaches and must be equipped to deal with a range of concerns that spans beyond the athletic arena. Indeed, the sport psychologist might have an active role working with NGBs and other sporting organisations to instigate the cultural change discussed above. Second, while there is certainly still a place for the sport psychologist, seemingly recognised by elite and highly successful coaches, the difficulty for practitioners lies in presenting and packaging sport psychology in a way that coaches feel is actually beneficial for them.

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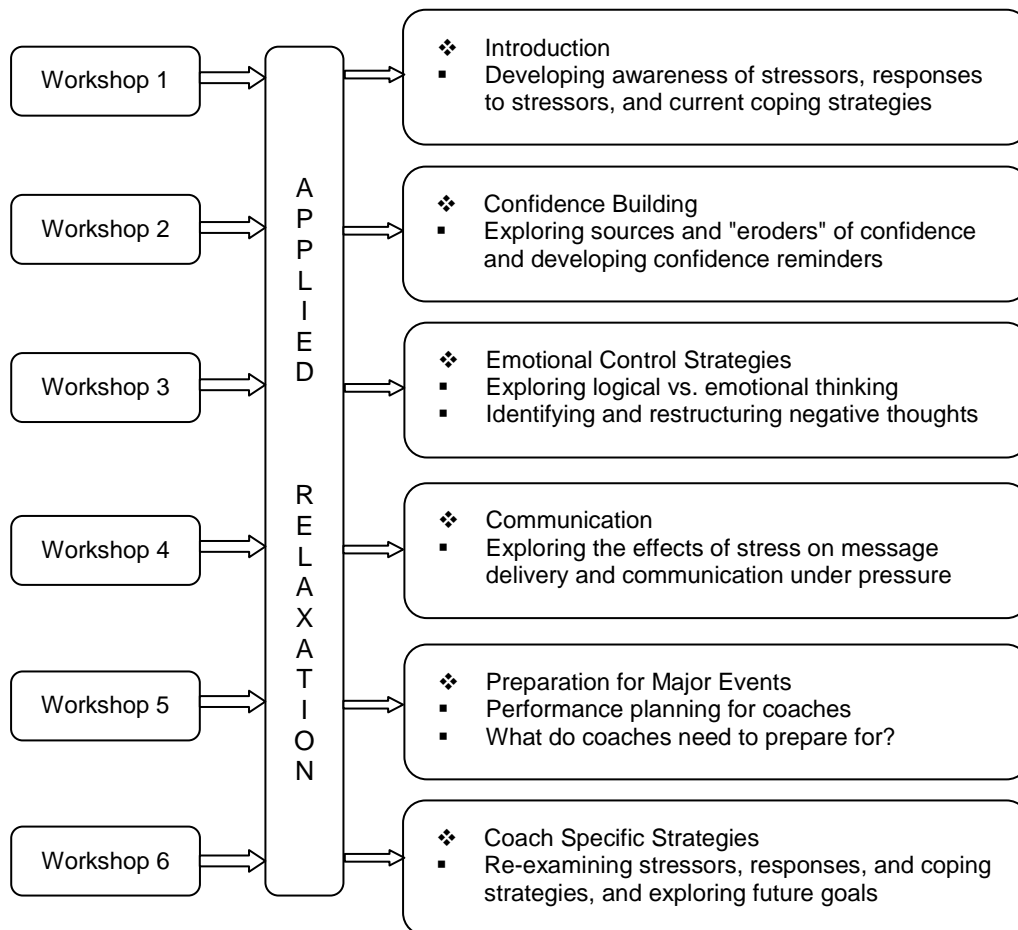
Table 1

*Pre- and post-intervention means and standard deviations for each of the questionnaire subscales.*

	Pre-intervention		Post-Intervention		Effect Size ( <i>r</i> )
	Mdn	SE	Mdn	SE	
<b>MSQ Subscale</b>					
Imagery	18	0.60	21	0.74	0.52
Mental Preparation	16	1.53	19	1.08	0.23
Self-Confidence	15	1.44	18	0.86	0.58
Anxiety/Worry Management	19	0.81	17	0.51	0.20
Concentration	22	1.11	20	0.66	0.43
Relaxation	15	1.12	19	1.05	0.64
Motivation	19	1.00	18	0.98	0.17
<b>CSAI-2md Subscale</b>					
Somatic Intensity	18	2.42	16	2.41	0.58
Cognitive Intensity	21	1.78	21	1.74	0.41
Self-Confidence Intensity	25	3.51	23	1.69	0.00
Somatic Direction	-1	3.25	7.5	3.52	0.36
Cognitive Direction	4	4.79	0.5	3.57	0.09
Self-Confidence Direction	15	6.14	16.5	4.33	0.37
<b>MCOPE Subscale</b>					
Instrumental Support	8	1.36	8	1.36	0.55
Emotional Support	8	1.64	7	1.71	0.54
Behavioural Disengagement	8	1.16	5	1.05	0.26
Self-Blame	13	1.12	12	0.84	0.65
Planning	15	0.37	14	1.54	0.17
Suppression of Competing Activities	13	0.05	14	1.21	0.00
Venting	8	1.33	10	1.33	0.04
Humour	4	0.97	6	1.36	0.58
Effort	15	1.29	15	1.57	0.14
Wishful Thinking	10	1.63	8	1.52	0.04
Active Coping	15	1.29	14	0.93	0.23
Denial	6	0.49	6	0.68	0.45
<b>MCOPE Effectiveness Subscales</b>					
Instrumental Support	14	0.45	15	0.75	0.41
Emotional Support	13	0.55	16	2.08	0.27
Behavioural Disengagement	8	2.06	11	2.52	0.23
Self-Blame	13	1.38	13	1.21	0.18
Planning	16	0.58	17	0.84	0.18
Suppression of Competing Activities	13	1.77	15	1.72	0.45
Venting	12	0.40	12	0.80	0.42
Humour	12	0.87	12	0.56	0.36
Effort	15	1.28	16	0.80	0.36
Wishful Thinking	10	1.02	9	1.02	0.34
Active Coping	16	1.08	17	0.74	0.51
Denial	11	1.39	11	1.58	0.12

## Appendix 1

### Six-week Mental Skills Training "package" for sports coaches<sup>1</sup>.



<sup>1</sup> A more detailed description of the MST programme is available from the first author.