

Coaching under pressure: mental skills training for sports coaches

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1 Coaching under Pressure: Mental skills training for sports 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

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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

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

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

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

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

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

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

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

138 **Method**

139 **Development of the Programme**

140 Based on an extensive research programme exploring world class coaches'
141 experiences of stress (Olusoga et al., 2009, 2010, 2012) the MST intervention programme for
142 the present study was designed to help coaches operate successfully and effectively when
143 under pressure. Specifically, six workshops were developed, aimed at encouraging coaches
144 to utilise various psychological skills, targeting areas deemed essential by highly successful
145 Olympic coaches (e.g., emotional control, communication, confidence; Olusoga et al., 2012).
146 While researchers have illustrated the efficacy and effectiveness of mental skills such as goal-
147 setting (Ward & Carnes, 2002), imagery (Shambrook & Bull, 1996), relaxation (Bull, 1989),
148 and positive self-talk (Tod, Hardy, & Oliver, 2011), Blakeslee and Goff (2007) suggested that
149 combining skills into comprehensive MST "packages" might be advantageous, particularly in
150 a group setting, not only in terms of resource and time management, but also team bonding.
151 Indeed, several researchers have demonstrated the efficacy and effectiveness of multimodal
152 intervention packages that combined several psychological skills (e.g., Brewer & Shillinglaw,
153 1992; Thelwell & Greenlees, 2001, 2003). Thus, the approach taken within this study was to
154 combine several mental skills into a six week intervention 'package' (see Appendix).

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

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

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

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

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

194 **Evaluation of the MST Programme**

195 **Participants.**

196 With institutional ethics approval, five coaches (all men) aged between 31 and 38
197 years (34.2 ± 2.8 years) participated voluntarily in the study. Coaches had between seven and
198 18 years (10.6 ± 4.3 years) experience coaching, and represented three sports (field hockey,
199 rugby union, and triathlon). For coaches to meet the specific criteria of the study they were
200 required to hold a National Governing Body (NGB) Level 2 coaching certificate (minimum)
201 and have coached an athlete or team in at least national league level competition in their
202 chosen sport. In addition, four of the five coaches had coached athletes at either junior or
203 senior international level, or in international student competition. The delivery of the
204 workshops series coincided with the first half of the British Universities competitive season
205 for four of the coaches. The triathlon coach had come to the end of his athletes' competitive
206 season.

207 **Measures.**

208 ***Demographic information.***

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

214 ***Mental Skills Questionnaire.***

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

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

230 The Competitive State Anxiety Inventory-2/modified (CSAI-2md; Jones & Swain,
231 1992) is a 27-item self-report inventory designed to measure state anxiety in competitive
232 situations. The CSAI-2md comprises three subscales measuring pre-performance cognitive
233 anxiety, somatic anxiety, and self-confidence, with nine items in each subscale. Participants

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

242 ***Modified COPE.***

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

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

257 ***Social validation questionnaire.***

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

275 **Procedure.**

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

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

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

296 **Data analysis.**

297 Because of the small sample size ($n=5$), parametric tests were considered unsuitable
298 (Coolican, 2014). As such, Wilcoxon Signed-Ranks tests were used to identify differences
299 between PRE and POST subscale scores on each of the relevant questionnaires. Effect sizes
300 were also calculated to judge the meaningfulness of any observed differences. Cohen (1988)
301 suggests that $r=.10$ represents a small effect size, $r=.30$ represents a medium effect size, and
302 $r=.50$ a large effect size. These guidelines were followed in the interpretation of data in the
303 present study. For the first part of the SVQ, mean scores were calculated for coaches
304 responses to the four response scale questions. For the open-ended questions, coaches'
305 responses are presented using thick descriptive quotes which represent common themes.

306 **Results**

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

312 **Analysis of Questionnaire Data**

313 **MSQ.**

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

325 **CSAI-2md.**

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

332 pre-intervention (Mdn=18.0), when compared with post-intervention (Mdn=16), $z=-1.826$,
333 $p=0.034$ (one-tailed), $r=0.58$. For the directional interpretation scores, coaches appeared to
334 perceive their somatic anxiety and self-confidence as more facilitative towards performance
335 post-intervention, while cognitive anxiety showed a trend in the opposite direction, becoming
336 perceived as slightly less facilitative. However, while coaches perceived that their somatic
337 anxiety and self-confidence became more facilitative, no statistically significant differences
338 were found.

339 **MCOPE.**

340 Results suggested that coaches used the suppression of competing activities, venting,
341 and humour to a greater extent after the Coaching under Pressure workshops than they had
342 before the intervention. There was no change in coaches' use of effort, denial or instrumental
343 support, but seeking social support for emotional reasons, behavioural disengagement, self-
344 blame, planning, active coping, and wishful thinking were all used less after the intervention
345 period. Results indicated that coaches used self-blame as a coping strategy significantly less
346 after the Coaching under Pressure workshops (Mdn=12.0) than before (Mdn=13), $z=-2.041$,
347 $p=0.041$ (two-tailed), $r=0.65$. No significant differences were found on any other of the
348 MCOPE subscales.

349 **MCOPE Effectiveness Scale.**

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

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

358 Fundamental to applied sport psychology is the need to evaluate applied practice
359 (Andersen, Miles, Mahoney, & Robinson, 2002). While questionnaires were employed to
360 note any significant changes in coaches' self-reported use of mental skills, experience of
361 competitive anxiety, and use of coping strategies, in accordance with Kelly's (1955) Personal
362 Construct Theory, feedback should also be gathered regarding participants' satisfaction with
363 and perceptions of the intervention. For the first part of the Social Validation Questionnaire
364 Coaches were asked to respond to a series of statements about the intervention on a likert-
365 type scale (e.g., 0 = *not at all important for me* to 7 = *extremely important for me*). For the
366 second part, coaches were asked a series of open ended questions about their participation in
367 the Coaching under Pressure workshops and their perceptions of the programme as a whole.
368 Here, a deductive approach was taken and the questions asked formed a priori themes (Patton,
369 2002).

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

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

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

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

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

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

402 **Discussion and Conclusions**

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

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

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

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

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

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

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

459 Another of the study's strengths was the strong evidence base and rationale for the
460 material included in the workshop programme. Existing literature on the use of mental skills
461 to enhance performance and develop adaptive cognitions was also taken into consideration in
462 the design of each workshop. As such, a comprehensive MST programme aimed at
463 developing coaches' abilities, skills, and psychological attributes, in areas that had been
464 identified as important by a group of extremely successful Olympic coaches (Olusoga et al.,
465 2012) was developed.

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

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

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

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

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

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

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

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

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634 Table 1

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

	Pre-intervention		Post-Intervention		Effect Size (<i>r</i>)
	Mdn	SE	Mdn	SE	
MSQ Subscale					
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
CSAI-2md Subscale					
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
MCOPE Subscale					
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
MCOPE Effectiveness Subscales					
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

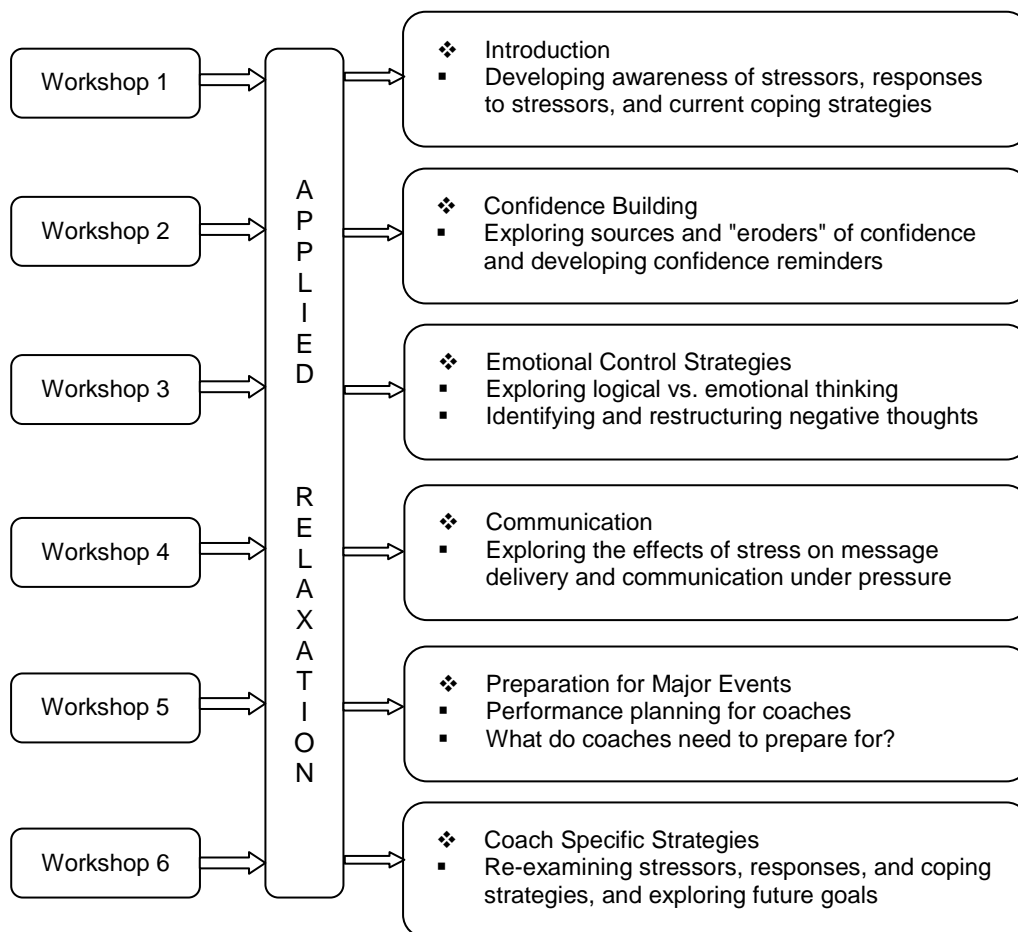
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640 Appendix 1

641 Six-week Mental Skills Training "package" for sports coaches¹.

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¹ A more detailed description of the MST programme is available from the first author.