Improving the Performance Environment of a Soccer Team During a Competitive Season: An Exploratory Action Research Study

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The aim of the current study was to facilitate systematic reflection and action to improve the performance environment of a soccer team during a competitive season. Using the Performance Environment Survey (PES; Pain & Harwood, 2007) as a diagnostic instrument, the researcher worked with the coach to collaboratively identify areas in which team preparation and functioning could be improved. Completed by the players and coach after each match, the PES captured feedback around team preparation and performance in the physical, psychological, coaching, social, planning/organizational and environmental domains. Analysis of this feedback provided the stimulus for weekly discussions with the coach. Results suggested that coach and player reflection increased during the study, and the coach reported that the PES data and his reflections on that data were beneficial to managing the performance environment. In areas where change was targeted—in particular the social and the physical domains—improvements in team functioning were reported. Team feedback meetings were also perceived as helpful to improving player ownership and cohesiveness.

Recent studies have revealed the performance environment in elite sport to be multifaceted, with performance contingent upon a broad range of factors (Douglas & Carless, 2006; Pain & Harwood, 2007; 2008). Research into sources of stress in sport (Fletcher & Hanton, 2003; Fletcher & Wagstaff, 2009), has also revealed how the organizational environment has a strong effect upon sport performers. The trend to consider these broader influences on athletes can be traced to the Olympic Games studies of Gould and colleagues (Gould, Guinan, Greenleaf, Medbery, & Peterson, Pain and Harwood are with the Dept. of SSEHS, Loughborough University, Loughborough, UK. Mullen is with the Dept. of Psychology, University of Glamorgan, Cardiff, UK.
Performance Environment Intervention

1999; Gould, Greenleaf, Chung & Guinan, 2002a; Gould, Greenleaf, Guinan, & Chung, 2002b; Greenleaf, Gould, & Dieffenbach, 2001). Their systematic examination of this unique sporting environment, conducted on behalf of the United States Olympic Committee (USOC), yielded fresh insights into athletic performance and also helped widen the scope of sport psychology support at such an event.

Following the example of USOC, the English Football Association (FA) commissioned a research project to examine the factors influencing performance at international tournaments. In the first study of the project, Pain and Harwood (2007) presented a qualitative description of the performance environment comprising 158 factors identified by coaches, players and support staff. Team cohesion, player understanding, and preperformance routines were among the factors most frequently cited as having a positive impact on performance. Pain and Harwood (2008) developed these factors into a conceptually based instrument that was completed by England players and support staff over a two-year period. The Performance Environment Survey (PES) captured information about team preparation and performance in the physical, psychological, coaching, social, planning/organizational and environmental domains, which enabled a quantitative assessment of the potential positive and negative impact of a wide range of factors within that environment. Again, this study highlighted the key impact of psychosocial factors, in particular cohesion and leadership, on team performance.

A practical implication of these studies is that detailed attention to, and management of, the performance environment should help to help improve team functioning and performance. Pain and Harwood (2009) described an intervention with a soccer team during a competitive season that supported the efficacy of this approach. Following the guidelines of Holt and Dunn (2006), the design was based upon mutual sharing and open discussion of team functioning. In the first phase of the intervention, detailed performance environment data were collected from players and coaching staff after each game using the PES. These data were analyzed and used as the stimulus for a series of structured meetings in which team functioning was openly discussed between the players and the coaching staff. This direct services approach (Yukelson, 1997) empowered team members to take an active role in the evaluation of team functioning and in the planning of subsequent actions. Results suggested that the intervention led to improvements in perceptions of team functioning (e.g., cohesion, trust and confidence in teammates), training quality, self-understanding, player ownership and team performance.

Pain and Harwood’s (2009) intervention centered upon the sport psychologist stimulating open player discussion of the overall performance environment. An alternative approach is to stimulate this discussion with the coach. Here, the psychologist may advise the coach about the factors that have the potential to impact performance, either directly or through their psychological impact. Gilbourne and Richardson (2005) described in detail this type of coach-focused approach to psychological support. Drawing on practical experience, they maintained that working in professional soccer often involves working with coaches, “Conducting psychological support in football by influencing the way coaches or managers work might be argued to be something that most sport psychologists would naturally do.” (p. 651). They further argued that working alongside coaches can help to bring about change at an institutional level, “A practitioner-focused approach has the potential to influence the psychological basis of practice at an
in institutional level and that is an exciting prospect.” (p. 657). Working in this way can also help ensure that support is contextualized within the unique traditions and practices of the soccer club thereby enhancing involvement and engagement in the intervention process.

Focusing specifically on professional soccer, Nesti (2010) also described the advantages of the psychologist working with the coach or manager. He outlined two such roles for the sport psychologist: firstly, acting as the organizational psychologist/human resource manager; secondly, and most relevant to the current study, supporting and developing the team manager or coach. This is not a new approach, sport psychologists have long championed the importance of working alongside the coach to help shape the environment in a positive way (e.g., Ravizza, 1990). Indeed, a central strand of the FA’s psychology strategy aims to support coaches in understanding psychological issues within the team environment (Cale, 2002). Within the literature, however, there are few intervention studies detailing how this may practically be achieved. Action research studies, in which the psychologist assists the coach to reflect upon and alter practice, provide the clearest examples. Gilbourne and Richardson (2005) emphasized the link between a coach-focused approach and collaborative action research, “Embedding this advisory service into a collaborative framework, and emphasizing the reflective, reflexive themes and processes associated with action research, allows any changes to workplace practice to develop through more democratic means.” (p. 654).

Such an approach is consistent with McNiff and Whitehead’s (2006) contention that the purpose of action research is to generate practical knowledge that can contribute to the development of new practice. Indeed, a number of applied coach-focused studies have used an action research design. In an early example, Krane, Eklund and McDermott (1991) combined collaborative action research with systematic observation to initiate a behavioral intervention with a college soccer coach. Two trained observers recorded coaching behaviors with the Coaching Behavior Assessment System (CBAS; Smith, Smoll, & Hunt, 1977). Consistent with a collaborative research approach, the coach and researchers together developed an intervention designed at increasing the use of technical instruction. Although significant quantitative changes were not observed, interview data indicated that the coach had, over the course of the intervention, developed a greater awareness of her coaching behaviors.

More recently, Evans and Light (2007) reported the successful use of an action research study to help a rugby union coach implement a more player-centered (game sense) approach to his coaching. The study involved collaborative action research between the coach and the researcher, with the researcher fulfilling the role of critical friend and ‘sport pedagog’, who brought theoretical and applied understanding to the partnership. Through a series of meetings an action plan was formulated, which led to the coach altering practices to reflect a game sense approach. In addition, meetings with the players were scheduled to gain their input into training sessions. Similarly, Gubacs-Collins (2007) used action research to examine the efficacy of implementing a tactical approach to teaching tennis in a preservice teacher education setting. Along with the researcher-practitioner, eighteen preservice physical education teachers systematically and critically reflected on their own work and made changes to their practice as a result.
The importance of critical reflection and discussion is also supported by Gould et al. (1999), who reported benefits for the participants in their study of the Olympic environment:

Athletes and coaches involved in the focus group sessions indicated the usefulness of the focus group discussions...It allowed them to reflect on their success and failure, to process their experience and to release emotions. Coaches and athletes can learn a great deal from each other simply by reflecting, processing, and communicating about past performances. (p. 392)

In a similar vein, Gilbourne and Richardson (2005) contended that facilitating this type of discussion could, “enhance the sport psychologist’s capacity to influence the direction of working practice throughout a football club.” (p. 652). There are now many studies showing the positive role that action research plays in applied research. However, apart from Gilbourne and colleagues’ work, there is very little research that has focused on effecting change in soccer, and none that has focused on improving the performance environment of a team during a competitive season.

Following an action research design, the current study was based upon a collaborative relationship in which the researcher assisted the coach of a soccer team to take a more systematic and reflective approach to managing the performance environment. The aim was to explore whether this approach to psychological provision could help to improve the performance environment during a competitive season. The study had two major components: (i) a systematic approach for the players and coach to evaluate the performance environment and contribute to the reflection process; and (ii) regular structured meetings with the coach to openly communicate and discuss the performance environment and identify areas for change.

As with Pain and Harwood (2009), the PES was used as a diagnostic instrument to analyze the performance environment on a game-by-game basis. This analysis provided the main stimulus for weekly discussions with the coach. As the season progressed, however, and in line with the responsive nature of action research, team meetings were also introduced. These enabled further discussion between players, the coach, and the researcher.

**Method**

**Action Research**

Most often associated with organizational psychology, teaching, and nursing, action research aims at improving practice in the workplace through the active engagement of the practitioners within it (Gilbourne & Richardson, 2005). Through collaboration, these practitioners (insiders) are encouraged to reflect, review and alter aspects of practice by the action researcher. This process is normally located within a cycle of evaluation, action, and reflection, which also aims at empowering individuals (Gilbourne & Richardson, 2005; Lewin, 1946). The present study was grounded in organizational action research, where the researcher aims to directly improve the participating organization (in this case, a soccer team) and, at the same time, to generate scientific knowledge. Epistemologically, this
is a practical form of action research associated with generating knowledge that guides practical judgment.

Within sport psychology, action research can be well suited to the applied researcher who acts primarily as an agent of change within the sport setting (Jackson, 1995). A number of studies have looked in-depth at sport psychologists supporting athletes (Evans, Hardy, & Fleming, 2000; Evans, Jones, & Mullen, 2004), coaches (Knowles, Gilbourne, Borrie, & Nevill, 2001), and their own development (Knowles & Gilbourne, 2010). The present study followed the approach presented by Gilbourne and Richardson (2005) and emphasized collaboration within a series of action-reflection cycles, which enabled the study to be responsive to the changing needs of the soccer team.

Participants

The participants in the study were the coaching staff and players of the first XI soccer team at a university in the UK.

Coach. The coach was 47 years old, and had practiced as a qualified coach (to UEFA A-license) for 24 years. He had played and coached at the highest level of professional soccer in England and was employed full-time at the university as first team coach and director of soccer.

Players. In total, 21 players were involved in the study. The mean age was 20.4 years (range 18–23 years). All the players had been previously retained by FA youth academies or centers of excellence associated with professional clubs (mean time = 4.7 years). These institutions are responsible for developing elite players in England between the ages of 8 and 18 years. The team competed in the British University and College Sports (BUCS) competition. Eight of the players in the team were also signed to semi-professional teams in the national league. Following ethical approval, informed consent was obtained from the coach and players before beginning the study.

Researcher/Sport Psychologist. The psychologist was male, British Association of Sport and Exercise Sciences (BASES) accredited (6 years) and British Psychological Society (BPS) chartered in Sport Psychology (3 years). He had previously acted as a consultant to the England youth soccer teams.

Data Collection

Multiple methods were used to inform, monitor and evaluate the impact of the study (Lincoln & Guba, 1985). The data collection techniques comprised the PES, review meetings, a semi-structured interview, and the researcher’s journal.

Performance Environment Survey. The PES was used as a diagnostic instrument to systematically identify areas in which team functioning could be improved and to stimulate reflection and action. Developed from in-depth interviews with England players, coaches and sport scientists, it was originally designed to evaluate team functioning in elite tournament soccer. Sixty-four items captured information pertaining to each of the key areas of the performance environment: Physical (8 items), Psychological (11 items), Coaching (16 items), Team/Social
(12 items), Planning/Organization (8 items), Environmental (9 items). Although the psychometric properties of the PES have not been tested and future research is needed, previous research in university soccer reported that it provided, “…a comprehensive and ecologically valid means for analyzing and describing team functioning.” (Pain & Harwood, 2009, p. 528). Players rated both the direction and the extent to which they perceived that each of the sixty-four variables had influenced current performance. Players were prompted to respond on a 3-point Likert-type scale (1 = not at all, 2 = somewhat, 3 = very much so) to statements including: “I found it difficult to sleep before the game”, “Nutritionally I was prepared,” “I found it hard to relax going into the game”, “I was confident in my own abilities” (Psychological); “The demands of my position were made clear”, “The selection decisions affecting me were fair” (Coaching); “The team was committed to the game”, “The team was confident of success” (Team/Social); “We had a long trip to the game”, “We had travel problems” (Planning/Organization); “The playing surface was poor”, and “The weather was extreme” (Environmental). They were then asked to rate the perceived impact of each item on performance based on an 11-point Likert-type scale (ranging from −5 = extremely negative, to +5 = extremely positive, with 0 = no impact).

Two further items from the PES measured performance (making 66 items in total): “How would you rate your individual performance?” (anchored at 0 = poor, 5 = average, to 10 = great); and “How would you rate the team’s overall performance?” (anchored at 0 = poor, 5 = average, to 10 = great). The survey ended with short answer, open-ended questions including: “What did you find particularly helpful to your physical preparation?” and “What did you find particularly helpful to your mental preparation?”

A weekly report was produced from the PES data. This formed the stimulus for weekly meetings with the coach. On the first page, perceptions of player and team performance were reported. On the next two pages descriptive information regarding the factors perceived to have had the most positive and most negative impact on team performance were reported. Generally, around ten positive and ten negative factors were included on the report so as to provide an appropriate level of detail for the coach. The focus here was on the consensus view given by the majority of players, although exceptional individual responses were occasionally reported. For example, if only one or two players reported a negative score for team cohesion, after weeks of only positive scores, this was deemed worthy of inclusion in the report. On the final page, player and coach responses to the open-ended questions on the PES were summarized along with other observations and thoughts from the researcher.

**Meetings.** Eight meetings, lasting between 35 and 45 min, were held between the researcher and coach during the study. These were held the day after each game to review and reflect upon the performance environment. The performance environment report was used as a stimulus to discuss team preparation, functioning and performance. Throughout these discussions, the psychologist aimed to take a neutral position, that of the critical friend, in which information and clarification was offered but direct guidance was avoided. Questions and probes were used to help the coach explore the contents of the report (e.g., “Which physical factors stand out for you? Overall, what do you think your players are saying about team
preparation?”). Each meeting ended with the question, “How might the information in this report and our discussion affect your management of the team?” The meetings with the coach followed a regular timetable (i.e., same time and place) as recommended by Gilbourne and Richardson (2005) to facilitate the overall process of reflection. The coach kept a journal to record and reflect upon these meetings and subsequent actions. Overall, this ‘reflection-on-action’ (Gilbert & Trudel, 2001), located between games and practices, was intended to influence behavior in future games or practices.

**Interview.** A semi-structured interview was conducted with the coach at the end of the study to explore perceptions of the processes and outcomes associated with the study. The interview lasted 40 min and began with a summary of the purpose of the interview and procedures. The interview guide comprised four main questions: “Overall, how did you find the support process?”; “What impact, if any, did the process have on your management of the team?”; “What impact, overall, did the study have on team functioning?”; “What would you change or do differently next time?” The interview and meetings were recorded and transcribed for the purposes of analysis.

The researcher maintained a journal for the duration of the study, which enabled a reflective account of his experiences. The journal was brought to training, games and meetings with the coach.

**Procedures**

At the beginning of the study, the researcher met with the coach and key stakeholders to discuss the approach for supporting the club through the season. The findings from Pain and Harwood’s (2007; 2008) research into the England youth teams were outlined and the idea of developing a more systematic and reflective approach to managing the performance environment was discussed. The researcher attended training sessions once a week on Mondays, and all team games, which were held on Wednesdays. The team also trained on a Thursday and attended a weekly gym session on a Friday.

After securing informed consent, the psychologist distributed the PES in the dressing room immediately after each game. The PES was subsequently completed by all team members, substitutes, and the coach, before being returned anonymously. These data were analyzed descriptively to assess the performance environment and to produce the report used as a stimulus for weekly meetings with the coach. These meetings were held on a Thursday, the day after each game, and were used to collaboratively identify areas for change in the performance environment. These were noted, acted upon, and evaluated following the next game, in a cyclical process of action and reflection.

The study lasted for a period of 8 games over a 24-week period comprising of three competitive phases, with a winter and spring break. The timeline and procedures are shown in Figure 1.
The following action research cycle was used during each week in the competitive phase (1, 2, & 3). Where no game was played during these phases, the implementation and monitoring process was extended until the next game.

1. **Wednesday.** Game – collect PES data
2. **Thursday.** Meeting with coach – discuss PES & plan changes
3. **Friday – Wednesday.** Implement & monitor changes during team training (Mon.), pre-game build-up, and game (Wed.)
4. **Repeat cycle**

<table>
<thead>
<tr>
<th>Stage of Season</th>
<th>Competitive Phase 1</th>
<th>6-week Break</th>
<th>Competitive Phase 2</th>
<th>5-week Break</th>
<th>Competitive Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Team Activity</strong></td>
<td>G1</td>
<td>G2</td>
<td>G3</td>
<td>Individual Training</td>
<td>Team Training &amp; 1st Team Meeting</td>
</tr>
<tr>
<td><strong>Week</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4-9</td>
<td>10</td>
</tr>
</tbody>
</table>

**Figure 1** — Timeline for the study.
Data Analysis

Qualitative data were content analyzed throughout the study as part of the action research process (Cohen & Manion, 1994). Analysis followed the procedures outlined by Patton (1990), and a second researcher independently validated the procedure at each stage. Quantitative data from the PES were analyzed after each game to produce simple mean scores for the variables impacting performance. At the end of the season descriptive statistics were again used to identify the extent and magnitude of the variables perceived as having the most positive and most negative impact on performance over the course of the study.

Trustworthiness Criteria. To enhance the trustworthiness of the analytical process, interview data were returned to the coach, who then engaged in a member-checking interview (Lincoln & Guba, 1985) to verify he had been accurately represented, to elaborate on issues he found important, and to confirm he was satisfied with measures to protect player and coach identities and confidentiality in general.

In addition, prolonged engagement, an investment of time to learn about the context in which the phenomena is embedded (Lincoln & Guba, 1985), was accomplished by engaging with the coach and team across the whole season. The honest and accurate disclosure of participants is made more likely by establishing this foundation of trust (Glesne & Peshkin, 1992).

Results

A narrative approach has often been used to describe action research studies in sport psychology (e.g., Evans et al., 2000; 2004; Knowles et al., 2001; Smith & Sparkes, 2009). The present study also adopted a narrative approach, which was structured around the coach’s and the sport psychologist’s perceptions of the performance environment as informed by the PES and observational data. The impact of the study was evaluated by considering how the performance environment changed during the study as a result of the action research process.

Games 1–3

The findings of the first performance environment report were discussed with the coach to raise awareness of the factors impacting team and player performance. In this meeting the coach was most interested in the ‘further comments’ section of the report and appeared impressed by the honesty of the players. Responding to player comments stating that ‘sloppiness/loss of concentration’ and ‘complacency’ hurt performance, he stated, “It’s really interesting to see the level of honesty. They seem to be aware of what they need to do…how they’ll improve. But this honesty, could this be helped by the fact the team had won?”

After two games the coach made an explicit link between the feedback provided in the reports and his own awareness, “I used to have little idea if things were getting home, but now I can see that they are…It makes me much more aware of what’s going on in the team.” These first two meetings were mainly intended to familiarize the coach with the feedback process. However, it appeared that the information from the reports had enhanced the coach’s ability to communicate with the players.
Specifically, he felt that if players themselves highlighted a weakness in the team environment, he was better able to communicate the need for change in this area. Physical preparation was the main focus of discussion in this respect, “It helps me to put across difficult points if they’ve already raised them [in the questionnaire]. For a start, I’ve let them know about the fitness side of things.” The data from the games 1–3 are summarized in Table 1 below.

The coach viewed the study as an opportunity to raise the professionalism of the team and to highlight to them the areas of preparation that needed to be addressed. He felt that the comprehensiveness of the PES meant that players were reminded after each game about what they needed to do to improve preparation and team functioning. The meeting following game 3 prompted an open and wide ranging discussion, in which the coach outlined his overall aims for the club and his desire to improve the professionalism of each team, not just the team he directly managed, “We could dip into other squads [using the PES] and help the other coaches…This is helping me to see where we can make changes and it should help them too.”

Table 1  Summarized PES Data From Games 1–3

<table>
<thead>
<tr>
<th></th>
<th>Game 1</th>
<th>Game 2</th>
<th>Game 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result</strong></td>
<td>7–2 (Home)</td>
<td>2–2 (Away)</td>
<td>2–1 (Home)</td>
</tr>
<tr>
<td><strong>Team Performance</strong></td>
<td>1st half = 8.3 / 2nd half = 6.2</td>
<td>1st half = 5.0 / 2nd half = 5.0</td>
<td>7.2</td>
</tr>
<tr>
<td><strong>Individual Performance</strong></td>
<td>6.6</td>
<td>5.6</td>
<td>7.2</td>
</tr>
<tr>
<td><strong>Major Positives</strong></td>
<td>Trust &amp; confidence in teammates</td>
<td>Social cohesion</td>
<td>Good pitch</td>
</tr>
<tr>
<td>(ordered by impact—most positive first)</td>
<td>Seeing ground before game</td>
<td>Coaching simple &amp; focused</td>
<td>Seeing ground before game</td>
</tr>
<tr>
<td>“further comments”</td>
<td>Coach team-relationships</td>
<td>Coach-team relationships</td>
<td>Positive team leader(s)</td>
</tr>
<tr>
<td></td>
<td>Clear team goal for game</td>
<td>Coach motivated team</td>
<td>Coach-team relationships</td>
</tr>
<tr>
<td></td>
<td>Good pitch</td>
<td>“Desire &amp; attitude”</td>
<td>Coach motivated team</td>
</tr>
<tr>
<td></td>
<td>“Clear roles &amp; responsibilities”</td>
<td>“Clear coaching points”</td>
<td>“Half-time talk”</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>“Rest day before game”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Becoming more professional in training/play”</td>
</tr>
<tr>
<td><strong>Major Negatives</strong></td>
<td>Physical fatigue</td>
<td>Poor pitch</td>
<td>Physical preparation</td>
</tr>
<tr>
<td>(ordered by impact—most negative first)</td>
<td>Lost composure</td>
<td>Extreme weather</td>
<td>Physical fatigue</td>
</tr>
<tr>
<td>“further comments”</td>
<td>Physical preparation</td>
<td>Lost composure</td>
<td>Other commitments interfering with preparation</td>
</tr>
<tr>
<td></td>
<td>No physiotherapist</td>
<td>Physical fatigue</td>
<td>Lost composure</td>
</tr>
<tr>
<td></td>
<td>“Loss concentration”</td>
<td>Poor communication</td>
<td>“Fatigued 2nd half”</td>
</tr>
<tr>
<td></td>
<td>“Complacency”</td>
<td>“Lost concentration”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Poor ref”</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The major positives are the PES items with the highest mean performance impact ratings. The major negatives are the PES items with the lowest mean performance impact ratings.
The emergence of a positive leader was also discussed, and the coach felt that encouraging this player to develop his leadership skills further in one-to-one meetings would be a useful action step. He felt that the player comments in relation to second half fatigue were accurate but that it might prove difficult to change these patterns while they also had commitments to semi-professional club sides during the week. In addition, directly prompted by the player feedback from the previous game, the coach stated how he had changed the warm-up leader, “I’ve switched the player taking it. I’ve also increased the overall preparation time. I can’t ask everybody about every part of the club. This helps me to see.”

At this point, the coach decided to initiate a session in which the feedback from the first three games was presented to the players and an opportunity provided for open discussion. Although the study was initially centered on the coach, by this stage he appeared comfortable with the process and felt that the players would also benefit from the chance to reflect as a group on aspects of their preparation. Survey feedback is a common approach within organizational action research and can be especially powerful when shared with teams as a basis for group discussion (Beer, 1976).

**First Team Meeting.** The first team meeting was held straight after the winter break in the season. It included all the players and coaching staff, and was facilitated by the sport psychologist. The baseline data pertaining to the performance environment provided the stimulus for an open discussion of team functioning. The aim was to share the survey feedback with the players following the 3-stage process of Pain and Harwood (2009): (1) Raise awareness; (2) Open discussion; (3) Generate action points. Each game was taken in turn with performance data presented first, then positive impact factors, then negative impact factors. All data were presented visually and described by the sport psychologist to the players and coaching staff who were gathered in a half-circle shape.

Overall, coaching factors and team/social factors were perceived (roughly equally) as having the most positive contribution to performance. Factors associated with leadership, playing at home, including the excellent pitch and knowing the ground in advance, were also major positives.

Factors within the physical domain were the most frequently occurring negative factors. Within the open-ended response section of the PES, ‘physical preparation’ was cited as the number one area that would improve individual performance. Losses in composure and concentration were also apparent.

At the end of the meeting a summary of the overall positives and negatives from the three games was presented and they were asked to reflect on these. Player discussion was limited and centered upon managing the physical load during the week, especially given many of the players’ additional commitment to semi-professional teams outside the university.

Based on the ongoing feedback and reflection the coach planned actions that might help improve the recurring negatives relating to physical preparation and fatigue:

- The extended prematch warm up to be maintained (players had commented in the PES on the benefit to physical preparation).
- The physical element of training sessions on a Monday night to be tapered for players also competing for clubs the day before BUCS games.
- A physiotherapist to be made available at every game.
• In the month before the semifinal and leading up to the final itself in the Easter break, physical training would be increased significantly.
• These factors were closely monitored using the PES going forward into the next three games.

Games 4–6

The PES data collected following game 4 (see Table 2), revealed a similar pattern of positive and negative factors, with team leadership emerging as the main positive factor. Physical variables were the main negative points raised by the players, although the presence of a team physiotherapist was commented on positively. In the weekly meeting the coach openly praised the use of the PES to his assistant, expressing how it had helped him to understand the team better, “I know what’s going on with the team. Each area is covered in detail and I know more about what the players are thinking.” It appeared that the PES feedback process had improved the coach’s perception of control over the team environment. At the same time, it provided a mechanism for players to provide input and raise issues regarding their own environment.

The coach emphasized the benefit of players filling out the PES straight after the game, “They go quiet and they think about everything that’s happened – good, bad, indifferent. Not ‘rah!’ let’s do this tonight…it’s a thinking and reflection process.”

Table 2 Summarized PES Data From Games 4–6

<table>
<thead>
<tr>
<th></th>
<th>Game 4</th>
<th>Game 5</th>
<th>Game 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result</strong></td>
<td>2–0 (Home)</td>
<td>3–0 (Away)</td>
<td>5–0 (Home)</td>
</tr>
<tr>
<td><strong>Team Performance</strong></td>
<td>6.4 (1st half = 7.6 / 2nd half = 5.3)</td>
<td>7.4 (1st half = 7.3 / 2nd half = 7.1)</td>
<td>8.1 (1st half = 6.8 / 2nd half = 8.2)</td>
</tr>
<tr>
<td><strong>Individual Performance</strong></td>
<td>6.7</td>
<td>6.6</td>
<td>6.9</td>
</tr>
<tr>
<td><strong>Major Positives (summarized)</strong></td>
<td>Positive team leader(s)</td>
<td>Strong team resilience</td>
<td>Team fully committed</td>
</tr>
<tr>
<td></td>
<td>Coach-team relationship</td>
<td>Clear team goal for game</td>
<td>Coach-team relationship</td>
</tr>
<tr>
<td></td>
<td>Clear team goal for game</td>
<td>Trust &amp; confidence between teammates</td>
<td>Positive team leader(s)</td>
</tr>
<tr>
<td></td>
<td>Seeing ground before game</td>
<td>Team confident of success</td>
<td>Team cohesion on pitch</td>
</tr>
<tr>
<td></td>
<td>“Physio on board”</td>
<td>“Told us what to expect”</td>
<td>“Rest &amp; sleep”</td>
</tr>
<tr>
<td></td>
<td>“Good warm-up”</td>
<td>“Warm-up”</td>
<td>“Good togetherness”</td>
</tr>
<tr>
<td><strong>Major Negatives (summarized)</strong></td>
<td>Physical readiness</td>
<td>Other commitments interfering with preparation</td>
<td>Physical readiness</td>
</tr>
<tr>
<td></td>
<td>Physical fatigue</td>
<td>Physical fatigue</td>
<td>Physical fatigue</td>
</tr>
<tr>
<td></td>
<td>Lost composure</td>
<td>Travel problems</td>
<td>Other commitments interfering with preparation</td>
</tr>
<tr>
<td></td>
<td>Other commitments interfering with preparation</td>
<td>Poor surface</td>
<td>Poor communication</td>
</tr>
<tr>
<td></td>
<td>“Loss of concentration early second half”</td>
<td>Distractions in environment</td>
<td>Lost composure</td>
</tr>
</tbody>
</table>
Ongoing monitoring within the physical domain revealed the negative factors to be relatively stable despite the actions taken to improve the physical preparation. It appeared that playing matches on consecutive days was still having a detrimental influence on the players as ‘more rest’ was again cited as something that would improve performance.

**Games 7–8**

Before game 7 (Table 3), the coach and psychologist discussed the positive impact of team and social factors, and how in recent games they had consistently underpinned the team’s strongest performances. The team now had a month’s break before the semifinal, and in the build up to this game (and then to the final) a series of actions were planned to further strengthen this area.

- The team was to go paint balling together.
- Two team social nights were planned.
- Team meals were organized for the night before both matches.
- The team were to return 2 weeks early from the Easter vacation to prepare for the matches.
- The team to train together twice every weekday (where no other commitments).
- A team meeting to be scheduled for the week before the final.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Summarized PES Data From Games 7 and 8</th>
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</thead>
<tbody>
<tr>
<td><strong>Result</strong></td>
<td>Game 7 (Semifinal) 2–1 (Neutral venue)</td>
</tr>
<tr>
<td><strong>Team Performance</strong></td>
<td>6.3 (1st half = 5.9 / 2nd half = 6.4)</td>
</tr>
<tr>
<td><strong>Individual Performance</strong></td>
<td>6.5</td>
</tr>
<tr>
<td><strong>Major Positives (summarized)</strong></td>
<td>Strong group socially</td>
</tr>
<tr>
<td></td>
<td>Strong team resilience</td>
</tr>
<tr>
<td></td>
<td>Team fully committed</td>
</tr>
<tr>
<td></td>
<td>Coach-team relationship</td>
</tr>
<tr>
<td></td>
<td>Clear team goal for game</td>
</tr>
<tr>
<td></td>
<td>“Good team spirit”</td>
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<tr>
<td></td>
<td>“Team activities”</td>
</tr>
<tr>
<td></td>
<td>“Rest”</td>
</tr>
<tr>
<td><strong>Major Negatives (summarized)</strong></td>
<td>Physical readiness</td>
</tr>
<tr>
<td></td>
<td>Physical fatigue</td>
</tr>
<tr>
<td></td>
<td>Difficulty sleeping pregame</td>
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<tr>
<td></td>
<td>Lost composure</td>
</tr>
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<td></td>
<td>Poor communication</td>
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<tr>
<td></td>
<td>Boredom leading up to game</td>
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</tbody>
</table>
In addition to team building, the coach reemphasized the importance of physical preparation and fitness. As the players themselves had identified these factors as weaknesses (in the PES) he felt he was in a better position to encourage work in this area. Following this series of actions, the team played and narrowly won a disjointed and hard-fought semi-final with a penalty in the last five minutes of the game.

**Second Team Meeting.** A week before the final, the second team meeting was held. Feedback from recent games provided an opportunity to review all the strengths of the team—most of which fell within the team/social domain. Areas for improvement were highlighted and discussion centered on poor communication on the pitch, which had been identified as a negative influence in some games. At the same time, it was stressed how their strengths had got them to the final and it would not make sense to change their style drastically. The atmosphere of the meeting was more relaxed than the first. Players were open and interacted freely with most contributing to the discussion. Also evident in the interactions was a strong cohesiveness and understanding between the players and with the coach.

The team dominated the final, and led 1–0 for most of the game. However, they conceded a late equalizer, which led to extra time and then to a penalty shootout. The team won the shoot-out 5–4 and collected the British Universities and Colleges (BUCS) Championship, the major prize in soccer for British students.

**Postseason Evaluation and Reflection**

A meeting was scheduled with the coach to discuss the performance factors arising from the final match. The major positive factors centered upon team/social factors, with nine of the top ten positive factors (measured on the PES) falling in this domain. The tenth factor related to the positive impact of the traveling supporters. This emerged for the first time in the study with many more than normal watching the game. Within the physical domain, the additional preparation over the Easter period appeared to have yielded benefits. It was evident from the PES data that in games 7 and 8 (the semi-final and final respectively) an improvement was shown in each of the physical markers. Despite the final game going to extra time, physical fatigue ratings still revealed an improvement.

**Post-Study Coach Interview**

A post-study interview was conducted with the coach to explore the mechanisms that had contributed to changes within the performance environment and to improvements in team functioning. The interview revealed the following major themes: feedback, reflection, player ownership, team communication and team meetings.

**Feedback.** The study was perceived to have improved the feedback channels between players and the coach. This was beneficial as a means for players to simply give their input as the following quote, regarding how the coach used the data from the PES, illustrated:

> Whereas otherwise you might have some people that are a little bit pissed off but don’t say anything about it, and whilst you don’t need to know who that person is, if it’s an issue at all, it’ll now come up (in the PES) and you can deal with it.
Player feedback was also perceived as helping the coach to gauge whether his input was being received, and that changes made to the performance environment had been effective, “From my perspective I’ve found it very useful because you get the feedback from the players. I know then the things we’re doing are getting into them.” The anonymity of the feedback process was considered important by the coach:

> Because there’s no names on it, they are totally honest with their information. And this is what we try to do with the lads. If they’ve got a problem spit it out. And if they put a name to it sometimes they won’t spit it out. But if they don’t put a name to it, it’s anonymous and whatever it is, it’s coming out. And we can deal with the issue. I think it’s important that they say what they want, and we can go from there. And that’s the only way we’re getting information from them. Because if it was out there on the training ground or anywhere else it wouldn’t happen.

**Reflection.** The questionnaires were completed directly after games and this reflection process was perceived by the coach to be beneficial for the players, “And after the game they’re thinking about things. Not just win, loss or draw but they’re also talking about their performances, how they’ve played, what information they’ve had.” This contrasted with how the players may ordinarily proceed following a game:

> And if it wasn’t for these [the questionnaires] they wouldn’t think about the game after the game either. This sits them down, and it’s important that they reflect on their game. And they put down comments. What they think they should be doing, or want more of that, less of this.

**Ownership.** Given that the players themselves had raised certain issues relating to the performance environment, it made it easier to then discuss these issues openly with the players and to implement change, “All of a sudden you get your feedback from that, and they’re bringing out what they’re putting on the forms. And it’s a great way of them expressing what they feel, and what they want, and what they think they should be getting out of it.”

**Meetings—Ownership.** Team meetings became an important part of the study. Giving the players a forum in which they could honestly express their thoughts was, in the eyes of the coach, a major strength of the meetings:

> I sat at the back, behind the players, with [the psychologist] at the front, and the players’ batted things between themselves, the majority of the time. Since, and I’m not trying to drag it out of them somewhere else, they’re saying it themselves and that’s when you get the most out of it. Sometimes they don’t listen, but when they’re saying it…it’s different. You start it off in the meeting, but they take it on, and really take it on board. I think it’s massive.

It was a new approach for the coach, but one which he evidently valued:

> I think sometimes, you might just get the same one or two say things when you’re on the training ground. But in the meetings, it’s their meeting. And they’re bringing up their thoughts and concerns about how they would do it. It was a new approach for me.
Meetings—Sharing Information

The coach contrasted the university team with a professional team, where he believed that communication was often more open. The coach perceived that the PES provided an important medium to improve communication within an environment that was not normally conducive to open discussion. The following two quotes illustrate the perceived differences between the coach’s perceptions of professional and university soccer clubs:

You go to a league club and that’s [open discussion] going on on the training ground. You don’t always need the meetings. That’s the difference between the pros and here. ‘John I want you to do this. Paul I need you to go in there…’ That’s the difference.

A lot of clubs have got massive amounts of talkers. You look at the successful clubs and they’re all chipping at each other. It’s not done in a nasty way; it’s done in a professional way because they want to be winners.

Discussion

Following an action research design, the current study was based upon a collaborative relationship in which the researcher assisted the coach of a soccer team to take a more systematic and reflective approach to managing the performance environment. The aim was to explore whether this approach to psychological provision could help to improve the performance environment during a competitive season. Results suggested that coach and player reflection increased during the study, and the coach reported that the PES data and his reflections on that data were beneficial in helping his management of the performance environment. Data from the PES also suggested that in areas where the coach had taken targeted action—the team/social and the physical preparation/fatigue domains—improvements in team functioning were reported. Performance measures also improved during the latter part of the study and the team went on to win the BUCS championship. From a conceptual standpoint, the study provided support for the framework of the performance environment described by Pain and Harwood (2007; 2008).

The study appeared to facilitate improvements to the performance environment through three main mechanisms, each of which is discussed in turn. Firstly, the cyclical process of data collection and reflection within successive action research cycles led to insights regarding the factors influencing team performance. In collaboration with the researcher this knowledge helped the coach to effect positive changes to the performance environment. Secondly, team meetings promoted open discussion within the club, which in turn appeared to improve aspects of team cohesiveness. Thirdly, completion of the PES after games helped players to reflect on performances and to contribute valuable ideas regarding team functioning.

Action Research Cycles

The study was primarily coach-focused, and involved collaborative reflection with the researcher on a weekly basis. This process of reflection was intended to raise awareness of the factors influencing team performance and of the impact of the
coach’s practice on these factors. Commentary from the coach throughout the study and especially the post-season interview data suggested that these aims were met and revealed a growing awareness of how his practice impacted the team. In the early meetings with the researcher, the weekly performance report was dissected to see exactly how his coaching was being received. Later meetings progressed to discussions that centered on those areas of practice that he might want to change and how this change may be enacted. The insights afforded by these discussions, particularly within the physical and social domains, helped the coach to effectively target related processes (including working intensively on the physical fitness, and targeting team cohesion leading up to the final games), and secondly led to his desire for team meetings to address certain issues as a whole squad.

As with Evans and Light (2007) and Gubacs-Collins (2007), the findings suggest that the study helped to promote a more critically reflective approach by the coach. The study also supported Gilbourne and Richardson’s (2005) contention that a coach-focused approach can be an effective way to influence practice at an institutional level. The changes that were made during the study touched upon many aspects of the club, from the physical and mental preparation of players, team cohesion, to the management of team travel arrangements. The results suggest that working in this way, whereby the psychologist works primarily in an advisory role acting as an agent of change (Jackson, 1995), can be an effective approach to psychological provision. Moreover, the adoption of a collaborative action-research framework enabled responsiveness throughout the study that meant changes could be implemented based on emergent themes following each reflection cycle. This approach, which differs from a more traditional pre-structured intervention, certainly helped to ensure that the coach and the players were supportive throughout the study.

Team Meetings

On one level, providing feedback to the players meant they were more engaged in the overall study and, as noted in the narrative, the meetings helped facilitate changes to how the players prepared for matches. At another level, in providing a secure environment in which players could discuss team functioning openly and raise issues that didn’t normally emerge on the training ground or in the build up to games, the meetings also appeared to strengthen the overall cohesiveness of the team.

In the post-season interview the coach saw the meetings as providing a space in which players could share ideas without the barriers that existed on the training ground. Yukelson (2001) has highlighted how athletic teams often have few opportunities for serious discussions that can deepen the understanding of the problems faced by fellow team members and potentially strengthen socioemotional bonds. Even though the content of the meetings was performance focused, such sharing of information and open discussion appeared to provide the opportunities to strengthen team bonds.

Within reflective practice literature, group reflection is sometimes considered a more effective process than personal reflection, which may be limited by one’s own knowledge and understanding (Knowles et al., 2001). Sharing experiences with others can create a forum for facilitating an interchange of views and may force practitioners to consciously attend to their practice (Haddock, 1997). In the
post-season interview the coach reported the benefits of gaining extra information from the players (through the PES) and the sharing of information in team meetings. Beer (1976) argues that the survey feedback approach to organizational change may also equalize power by, “...increasing communication, information flow, confrontation of problems – all important dimensions of organizational health.” (p. 949). This theme appeared in the current study and may have helped create a more autonomy-supportive climate (Mageau & Vallerand, 2003). It was particularly interesting to note that the coach perceived the PES as “...being a great way of them expressing what they feel, and what they want, and what they should be getting out of it,” and how, “...in the meetings, it’s their meeting.” Supporting recent research in team building and mutual sharing (Dunn & Holt, 2004; Holt & Dunn, 2006; Pain & Harwood, 2009), overall cohesiveness also appeared to be enhanced by the meetings.

**PES Completion**

The design of the study meant that the players and coach completed a questionnaire in the dressing room immediately after matches. This was a new activity for all involved, and one that could have caused some concerns and adherence issues. Fortunately the coach, perhaps perceiving the benefits early on, strongly encouraged this activity, and his comments above show how he felt the process of reflection was helpful to understanding each game, and to identify where improvements could be made. This finding supports the view of applied psychologists emphasizing the importance of systematic performance reviews and reflection (e.g., Ravizza, 2001; Butler, 1997). It is a limitation, however, that feedback was not collected directly from players regarding this process. It would have been valuable to understand more about how they saw the overall review and reflection cycle from the completion of the questionnaire through to the impact of team meetings. Unfortunately, following the final game, which occurred very late in the academic year, the players were not assembled again as a group. The study was also weakened by not making more use of the coach’s journal, which, apart from the meetings with the researcher, was not otherwise used for in-depth personal reflection. Although this was not a reflective practice study, additional detail could have added to the narrative and increased understanding of the how the coach’s working practice was impacted by the study.

A major strength of the study was that it was conducted during a competitive season with a coach and performing team, and therefore had high ecological validity. This strength followed, at least in part, from employing an action research design. The study was built upon a collaborative relationship with the coach, who was jointly responsible for the unfolding of the actions taken to improve aspects of the performance environment. Supporting the arguments of Gilbourne and Richardson (2005), this appeared to facilitate involvement and commitment, which are critical to any support process. In addition, the study evolved in response to the needs of the coach and the team through each reflection and action cycle. The collaborative scheduling of team meetings to address emergent issues within the performance environment illustrates the benefits of this responsiveness.

The present study has a number of specific implications for applied practice. Firstly, it suggests that the sport psychologist can work effectively alongside the coach in an advisory capacity, and also by facilitating team meetings in which
areas other than psychology are discussed. Both of these roles represent a departure from psychological skills training and support Gilbourne and Richardson’s (2005) coach-focused approach, “Surviving and thriving as a sport psychologist (within the challenging world of professional soccer at least) is associated with something more than an understanding of psychological skills training (PST).” (p. 326). The PES proved very helpful in supporting this expanded role and, as an applied instrument, captured well the dynamics within a soccer club. As the coach stated:

I felt that because of the detail it (the PES) went into…there’s a lot of stuff after a game that you can think ‘he’s not been happy with that, or that wasn’t quite right’, but it means that you don’t miss anything, everything’s covered.

In a wide ranging review of coach learning and development, Cushion et al. (2010) argue that although coach reflection is a valuable tool for learning, left unaided, reflection is often undertaken in a superficial way. Supporting this contention Knowles et al. (2006) showed that while coaches they had previously taught (Knowles et al., 2001) continued to engage in critical reflection, their approaches had changed markedly from those taught during the original course. Coaches only engaged in technical reflection that tended to focus on negative aspects and they were no longer using their reflective journals. Cushion et al. (2010) suggest that reflection may work best within a mentoring relationship that encourages a more systematic and meaningful engagement. Indeed, Evans and Light (2007) argued that collaborative action research may provide an effective means for structuring this relationship and of promoting coach development. The findings of the current study certainly support this line of argument with the psychologist fulfilling the role of a critical friend within an action research framework.

Secondly, as in Pain and Harwood (2007; 2008; 2009) team and social variables were perceived as having the most positive impact on performance (see Figure 2). In contrast, individual psychological variables were seen as having far less impact overall, except in the case of losses in composure. Within soccer, and potentially in other team sports, applied practitioners may benefit by concentrating the majority of their efforts on the team rather than individuals. Furthermore, given the misconceptions of athletes and coaches with respect to sport psychology (Ravizza, 1988; Pain & Harwood, 2004), grounding sessions on aspects of team functioning, and keeping them short and to the point, appears wise (Pain & Harwood, 2009).

Finally, it was interesting to note a variation over time in the impact of the different variables measured by the PES. In games 1–3, at the start of the study, coaching and team/social variables were perceived as equally positive. In games 4–6 team/social variables, including leadership, began to emerge as the major positives, and in the final games they were clearly seen as having the most positive impact on performance. Carron, Colman, Wheeler, and Stevens’ (2002) seminal meta-analysis highlighted the positive impact of cohesion on performance; its development over the course of the current study mirrored that shown by Holt and Sparkes (2001). They highlighted role clarity and acceptance, and having a clear team goal, as two of the main factors that underpinned the improvements in cohesiveness. In the current study, role clarity and understanding were relatively high at the start and remained at similar levels throughout the study. Having a clear team goal for the game emerged as a major positive in the knock-out games, and this may have contributed to improvements in team cohesiveness. Although these findings are
context specific, they suggest that practitioners may benefit from ‘periodizing’ psychological provision so that the factors of most importance are addressed at each stage of a season.

In conclusion, the study shows how using action research to facilitate systematic reflection within a soccer team can lead to improvements in team functioning during a competitive season. The coach reported that the PES data and his reflections on that data were beneficial to managing the performance environment. Team feedback meetings were influential in encouraging players to share information and discuss issues with team preparation, and also appeared to contribute to improvements in player ownership and cohesiveness.

References


