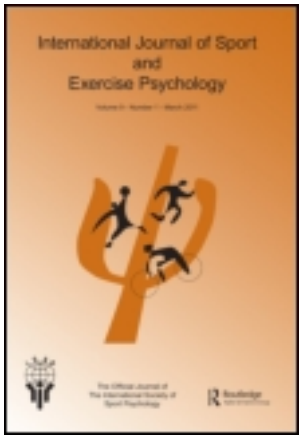


International Journal of Sport and Exercise Psychology
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/rijs20

Athlete perceptions of the impacts of performance profiling

Neil J.V. Weston [a] , Iain A. Greenlees [b] & Richard C. Thelwell [a]
[a] University of Portsmouth, UK
[b] University of Chichester, UK

Version of record first published: 04 Jul 2011.

To cite this article: Neil J.V. Weston , Iain A. Greenlees & Richard C. Thelwell (2011): Athlete perceptions of the impacts of performance profiling, International Journal of Sport and Exercise Psychology, 9:2, 173-188

To link to this article: http://dx.doi.org/10.1080/1612197X.2011.567107

International Journal of Sport and Exercise Psychology
Vol. 9, No. 2, June 2011, 173–188

Athlete perceptions of the impacts of performance profiling

Neil J.V. Weston[a]*, Iain A. Greenlees[b] and Richard C. Thelwell[a]

[a]*University of Portsmouth, UK;* [b]*University of Chichester, UK*

(*Received 15 July 2009; final version received 19 October 2009*)

The present research examined athlete perceptions of the usefulness and impacts of producing individual performance profiles within a group setting. In study 1, eight randomly chosen rugby union players who had participated in a performance profiling session were interviewed to gain their perceptions of the strategy. The interview content analysis findings were then combined with a review of the profiling literature to produce a closed questionnaire for study 2. In this study, 10 sport teams each participated in a single performance profiling session. At the end of their session, athletes ($n = 191$) completed the questionnaire to determine their perceptions of performance profiling. Athletes believed profiling could be useful in: (1) raising their self-awareness; (2) helping them decide what they need to work on; (3) motivating them to improve; (4) setting goals for themselves; (5) monitoring and evaluating their performance; and (6) taking more responsibility for their development.

Keywords: profile; assessment; self-awareness; exploratory factor analysis

Originally termed the "self-perception map" (Butler, 1989), the performance profile (Butler & Hardy, 1992) is a client-centred performance assessment strategy. In creating the profiling technique, Butler and Hardy asserted that the approach would provide a direct application of Kelly's (1955, 1991) Personal Construct Theory (PCT) into a sport performance context. Kelly's theory of personality attempts to explain how an individual interprets and thus behaves within the world. The theory proposes that people attempt to understand the world by developing personal theories (or constructs) and that these theories help the individual to anticipate events in the future. Indeed, Kelly asserted that through experience these theories are likely to be revised over time (Kelly's experience corollary).

Essential to the development of the profiling strategy was Kelly's assertion that whilst individuals can interpret situations in a similar manner (Kelly's commonality corollary), fundamentally individuals are unique in their interpretation of events (Kelly's individuality corollary). Thus Butler and Hardy (1992), in observing the predominance of coach dictated athlete performance assessment strategies (involving minimal athlete input), suggested that important information and knowledge from the athlete may be missed. Furthermore, they suggested that such practises could result in the initiation of training programmes that do not match the athlete's perceptions of the situation and as a consequence decrease the athlete's sporting motivation. Drawing upon Deci and Ryan's (1985) Cognitive Evaluation Theory (CET), the authors hypothesised that coach controlled performance assessment practises that stifle athlete perceptions of autonomy are likely to undermine their intrinsic motivation. Hence the performance profiling strategy was

*Corresponding author. Email: neil.weston@port.ac.uk

ISSN 1612-197X print/ISSN 1557-251X online

DOI: 10.1080/1612197X.2011.567107
http://www.informaworld.com

developed to overcome these issues and allow the athlete to assume greater influence and input into their performance assessment and hence subsequent development.

The technique encourages athletes, either individually or as part of a group, to reflect upon the key qualities (e.g., technical, physical, psychological, and tactical) that are required to perform successfully in their sport/position. Athletes are then asked to rate themselves on those qualities [typically on a 1 (lowest) to 10 (highest) scale] to identify their performance related strengths and weaknesses. Following the completion of the profile, athletes are then encouraged to discuss the outcomes of their profile with their coach to initiate specific training on those areas of weakness.

Examination of the literature in the area suggests that sport psychologists appear to be frequently employing the strategy across a variety of sporting populations (Weston, 2008). Furthermore, there is evidence to suggest that consultants believe profiling to be useful as a basis for goal setting and structuring training (Butler, 1997), monitoring performance (Doyle & Parfitt, 1997), developing confidence (Butler, 1995), facilitating more self-determined motivation (Butler & Hardy, 1992) and encouraging communication within teams (Dale & Wrisberg, 1996). Whilst this literature suggests some useful practical applications of performance profiling, it is solely focused on consultant perceptions, failing to consider the athlete's experience. This is surprising given the fundamental athlete centred philosophy of performance profiling and the fact that the technique has been in existence for almost 20 years. Whilst not being the central aim of the research studies, there is anecdotal evidence that athletes believe profiling to be useful in increasing their self-awareness as to the qualities influencing performance (D'Urso, Petrosso, & Robazza, 2002), in improving motivation (Jones, 1993) and in developing a more open atmosphere for communication within teams (Dale & Wrisberg, 1996).

Despite these findings, research investigating athlete opinions of profiling has to date, been sporadic in nature and lacking in a detailed investigative approach. Hence, the present research attempted to provide the first systematic examination of athlete perceptions regarding the usefulness, impacts and benefits of performance profiling. It is acknowledged that the profile has been presented in a variety of forms (e.g., athlete, team, coach profiles) and more recently has been extended to consider other elements of PCT (Gucciardi & Gordon, 2009). However, in order for the present study to examine the perceptions of a large range of athletes, the investigators decided to focus their examination on athlete opinions regarding the development of individual athlete profiles within a group setting and thus confine the investigation to the original procedure presented by Butler and Hardy (1992).

The primary aims of the present work were firstly, to identify how useful athletes believe performance profiling to be, and secondly, to determine what athletes perceive to be the most important benefits of producing individual athlete performance profiles within a group setting. In order to achieve these aims two studies were conducted.

Study 1

Study 1 was designed to provide an in-depth qualitative examination of athlete opinions as to the usefulness and benefits of performance profiling. It was anticipated that this research would confirm and extend the existing, limited anecdotal athlete opinions regarding the usefulness of the technique. Furthermore, it was hoped that the findings would complement and extend the mainly descriptive consultant-based literature which currently exists in the area. A final aim of study 1 was to provide important information that would inform a larger and more widespread quantitative examination of athlete opinions of profiling in study 2.

Method

Participants

Eight male rugby union players ($M = 22.6$, $SD = 3.3$) were randomly chosen from a British collegiate rugby union squad ($n = 18$), who had produced individual performance profiles within a group setting (Butler & Hardy, 1992), and volunteered to participate in the study. The interviewees provided sufficient information to indicate a saturation of information had been obtained after the interviews (Biddle, Markland, Gilbourne, Chatzisarantis, & Sparkes, 2001). The competitive experience of the athletes ranged from 5 to 20 years with a mean of 10.6 years ($SD = 4.8$).

Interview guide

The interview guide contained three sections: Section one identified the demographics details of the performer (e.g., age, competitive experience, position). The second section focused on the usefulness of the profiling session the athletes had just participated in covering the major strengths, benefits, and uses of the procedure (e.g., "reflecting on the profiling session, what do you consider to be the main benefits of producing your own performance profile?"). The final section asked how the athletes might use the performance profile in the future (e.g., "How could you use the performance profile in the future to help you develop as a performer?"). The same questions were asked in all the interviews with relevant, predetermined probe questions employed where appropriate (Patton, 2002).

Procedure

A British Association of Sport and Exercise Sciences (BASES) accredited sport psychologist delivered a group performance profiling session (as per Butler & Hardy's 1992 guidelines) to a British collegiate rugby union squad who had no prior experience or knowledge of profiling. The squad was split into small groups relating to their position (e.g., front row, half backs, centres, etc.) and asked to consider "what in your opinion are the qualities or characteristics of an elite athlete in your sport?" (Butler & Hardy, 1992, p. 256). The athletes were asked to consider as many physical, technical, psychological and tactical qualities for their position. Following presentation of the qualities produced by each group, athletes were then asked to individually identify up to 20 qualities that they felt were important to their own performance, taking into consideration their style of play and sporting position. These qualities could be chosen from any of the group presentations with no restriction on the number of physical, tactical, psychological or technical attributes added to their profiles. Each athlete then transferred these qualities onto a blank circular target (see Appendix 1 for an example performance profile) and rated their ability on each quality on a scale of 1 ("very poor") to 10 ("the best I can possibly be").

Following the completion of the session, eight athletes volunteered to be interviewed in order to provide their opinions of performance profiling. At least two days prior to the interview, each interviewee was provided with a guide detailing a list of the interview questions to review. Furthermore, interviews were conducted in person by the first author no more than four days following the performance profiling session to minimise recall difficulties. The interviewer was knowledgeable in the performance profiling area and trained in qualitative research methodology. At the start of the interview, participants were briefed as to the aims of the study, structure of the interview, and that all the information supplied would remain strictly confidential. Each interview was tape recorded, transcribed and then deductively and inductively content analysed (Biddle et al., 2001; Patton, 2002) by three research professionals trained in qualitative analysis procedures.

Data analysis

The transcribed interviews, resulting in 59 pages of single-spaced data, were read and re-read by three researchers to familiarise themselves with the data. Each investigator then independently inductively content analyzed the transcripts for meaning units (i.e. words, phrases, or sentences) relating firstly to the impacts of the profiling session that the athlete had just participated in, and secondly the perceived benefits of using the performance profile in the future. As directed by Patton (2002), triangular consensus was then obtained for the meaning units from which the three researchers then discussed and agreed upon higher order themes for each analysis.

Results

Figures 1 and Figures 2 provide an overview of the themes to emerge from the two content analyses. These findings will briefly be discussed in the following passage.

Impacts of a single performance profiling session

Nineteen raw data profiling impacts were identified from which eight first-order themes and one second-order theme emerged. Athletes suggested that the profiling session had helped to raise their self-awareness by highlighting their strengths, weaknesses and the demands of their and other positions within the team. Furthermore, athletes indicated that profiling had helped to get something down on paper so that they could visualise the areas they were strong, weak and need to improve on. The profile was also suggested as useful in initiating improvements in themselves, highlighting strategies to improve and thinking about setting goals.

Benefits of using the performance profile in the future

Given that the evaluation of the impacts of performance profiling was confined to a single profiling session, it was decided to examine what the athletes believed might be the benefits of profiling in the future. Thirty-three raw data benefits were identified from which thirteen first, and three second-order themes emerged, in addition to a single third-order theme. Athletes

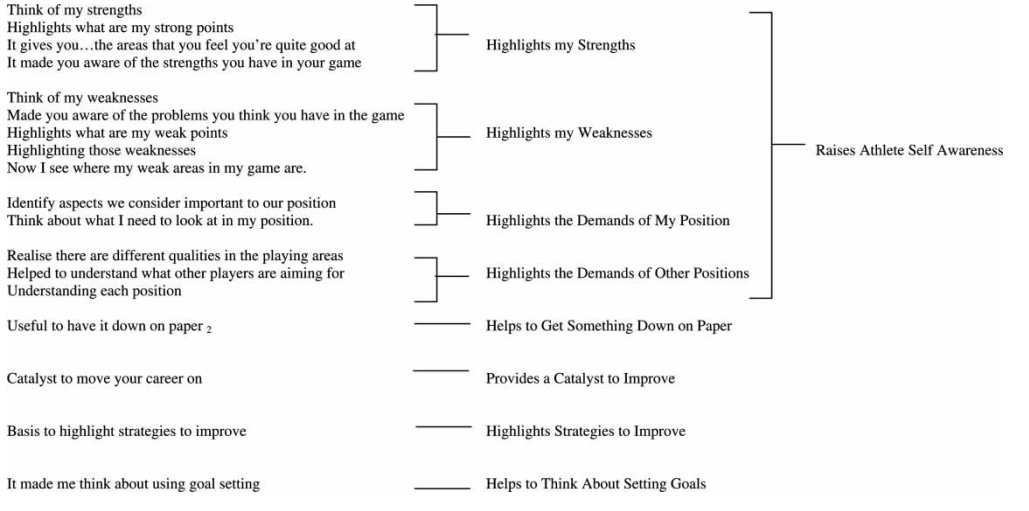


Figure 1. Athlete-perceived impacts of producing an individual performance profile in a group setting (numbers illustrate the number of participants citing the source when >1).

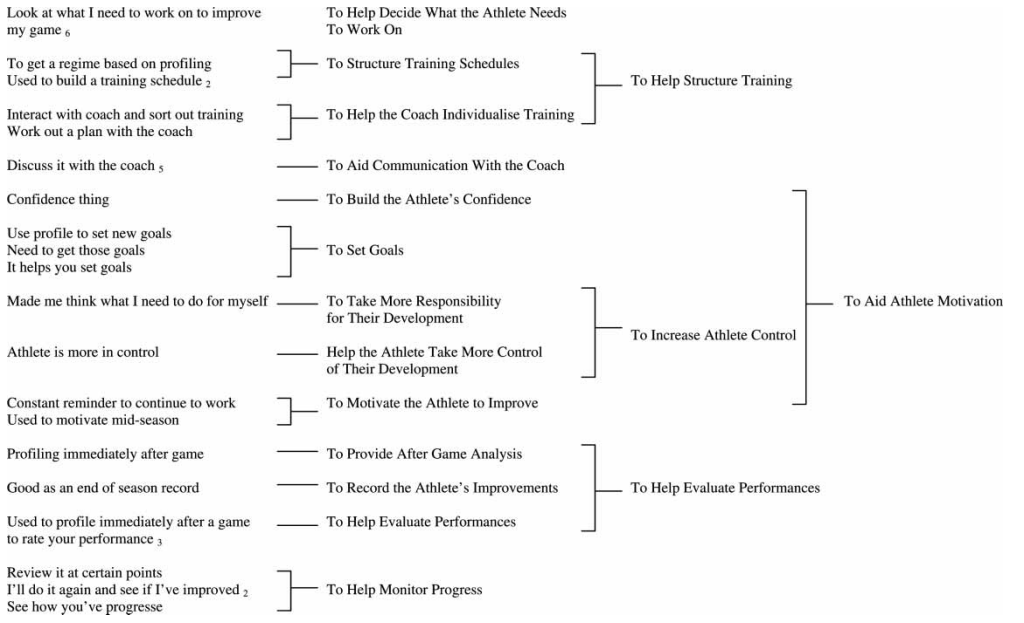


Figure 2. Athlete-perceived benefits of using performance profiling in the future (numbers illustrate the number of participants citing the source when >1).

suggested that the profile could be used in the future to help them decide what they need to work on, aid communication with their coach, structure their training, aid athlete motivation, and help monitor and evaluate performances.

Study 2

Whilst study 1 provided an in-depth analysis of athlete opinions as to the potential benefits of performance profiling, it was limited to a small sample size of single sport male athletes. Hence study 2 attempted to overcome these weaknesses by profiling 10 sport teams (across both genders) on a single occasion. A closed Athlete Performance Profile Questionnaire (APPQ, see Appendix 2) was designed in order to quantify athlete perceptions of the profiling session. The APPQ was constructed from the profiling benefits/impacts derived from a review of the literature combined with the impacts and benefit themes produced from the study 1 interviews. Loewenthal (2001) suggests that in the construction of questionnaires, it is useful to derive items from a review of the relevant research and/or an analysis of interview material. Indeed, this combined approach has been successfully employed within the literature (see Jackson & Marsh, 1996; Yoo, 2001).

Hence upon the conclusion of their profiling session, athletes completed the APPQ in order to quantify: (1) how useful athletes perceived developing individual athlete performance profiles within a group setting to be; (2) whether they would benefit from using profiling in the future; (3) the impacts of profiling on a single occasion; and (4). what benefits the athletes believed they would gain from using profiling in the future. Given the exploratory nature of this investigation, a further aim was to determine if any common themes emerged from the profiling impact/benefit item responses contained within the APPQ via an exploratory factor analysis (EFA). Finally, gender has been shown to influence opinions of sport psychology service delivery (e.g., Martin, 2005), hence a supplementary aim was to determine whether any gender differences emerged from the EFA analysis.

Method

Participants

One hundred and ninety-one British University Sports Association athletes (99 male, 92 female) volunteered to participate in the study. The athletes (age range = 16–25 years; mean age = 19.5, *SD* = 1.7) played in team sports including field hockey (n = 58), soccer (n = 51), netball (n = 32), rugby union (n = 31) and basketball (n = 19). None of the participants had any experience or knowledge of Butler and Hardy's (1992) performance profiling technique prior to the study.

Instrument

The study 1 higher-order interview themes were combined with key performance profiling impacts/benefits derived from a review of the athlete and consultant-based literature to develop items for the APPQ. The questionnaire firstly asked athletes how useful they found performance profiling to be and whether they would benefit from doing profiling in the future. Secondly, athletes were asked to stipulate how much of an impact the single profiling session had been on nine impact statements (e.g., "helped to highlight my strengths"). The final section asked athletes to indicate the extent they would benefit from using the performance profile in the future on 15 statements (e.g., "to set goals for myself"). Athletes responded to all these questions on a 5-point Likert scale of 1 (not at all) to 5 (very much) where 3 constituted a moderate score. Three research professionals separately identified, then jointly discussed and agreed the inclusion of items for each section of the questionnaire. The APPQ was pilot tested with collegiate male rugby union (n = 27) and female field hockey (n = 16) squads from which minor changes were made to the sequencing of questions in addition to increasing the spacing between each item line. The APPQ achieved good levels of internal consistency as assessed by Cronbach alpha (α = .92).

Procedure

Ten separate sport-specific (e.g., field hockey, soccer, netball, rugby union and basketball) performance profiling group sessions were delivered by a BASES-accredited sport psychologist facilitating the production of individual athlete performance profiles. Each session followed the same procedure as study 1. On completion of the session, all athletes completed the APPQ, which took approximately 5 minutes.

Data analysis

Descriptive analyses were conducted to determine the mean (and *SD*) response of all participants relating to the usefulness of the performance profiling session, whether the athletes perceived they would benefit from a similar session in the future, the immediate impacts of a single profiling session and the possible benefits of profiling in the future.

An EFA was conducted to ascertain collective factors that emphasise athlete perceived impacts/benefits of performance profiling within a group setting. Both the impact items from the single group profiling session and future benefits of profiling were combined to determine if any global impact themes emerged from the data set. A principal axis factor analysis was employed using varimax rotations. Finally, multivariate analysis of variance (MANOVA) was chosen to examine whether any significant gender differences existed in the factor analysis responses as directed by Manley et al. (2008).

Results

Descriptive analyses

The descriptive analyses indicated that performance profiling was perceived as being useful (M = 4.05, SD = 0.82) and that the athletes felt they would benefit from a similar session in the future (M = 4.04, SD = 0.89). The mean (and SD) of the impacts of the performance profiling session and potential benefits of doing profiling in the future are provided in Tables 1 and 2 respectively in descending order.

Impacts of a single performance profiling session. Many of the most important impacts of producing the performance profile were factors relating to an increase in the athlete's self-awareness. These included helping to highlight the athlete's weaknesses, strengths, and the demands of their and other positions. The least important impact of profiling in a group, rated moderately by the athletes, related to the technique's ability to increase athlete confidence.

Future benefits of using the performance profile. The most important potential benefits of using profiling in the future included, to help the athlete decide what they needed to work on, to motivate the athlete to improve, to set goals for themselves, to monitor their progress, and

Table 1. Mean ratings (and standard deviations) of the athlete-perceived impacts of producing a performance profile in a group setting.

Impact	*M*	*SD*
Helped to highlight my weaknesses	4.27	0.84
Helped to highlight my strengths	4.04	0.80
Helped to highlight the demands of my position	3.97	0.86
It made me think about setting goals	3.78	0.99
Helped to highlight the demands of other positions	3.67	0.95
It was a catalyst to help improve myself	3.61	0.95
It helped to get something down on paper	3.59	0.97
It helped to highlight strategies to improve	3.29	0.96
It helped to enhance my confidence in my ability	3.06	0.91

Table 2. Mean ratings (and standard deviations) of the athlete-perceived potential benefits of performance profiling in the future.

Benefit of using the profile in the future	*M*	*SD*
To help me decide what I need to work on	4.22	0.77
To motivate me to improve	4.02	0.95
To set goals for myself	3.90	0.91
To monitor my progress	3.85	0.94
To help in the evaluation of my performance	3.80	0.83
To record my improvements	3.78	0.92
To take more responsibility for my development	3.76	0.89
To take more control of my development	3.73	0.86
To motivate me to train	3.61	1.06
To provide after game analysis	3.54	0.94
To aid communication with my coach	3.52	1.00
To improve the coach's understanding of me	3.48	1.00
To help the coach individualise my training	3.40	1.03
To build my confidence	3.35	0.97
To structure my training schedule	3.30	0.98

to help in performance evaluation. The least likely potential benefits of future profiling included building athlete confidence and helping to structure their training.

Exploratory factor analysis

A Kolmogorov-Smirnov test was conducted to examine the normality of the data set. As a result of the significant findings the data set was normalised to produce standardised *z* scores for each item. As directed by Tabachnick and Fidell (1996), outliers with *z* scores ± 3.29 were removed from the analysis to prevent distortion of the statistical analysis. A Keiser-Meyer-Olkin (KMO) value of 0.89 indicated that the data set was suitable for factor analysing. Similarly, Bartlett's test for sphericity was significant (χ^2 (276) = 1760.70; $<.05$), thus providing further evidence of the data set's suitability for undergoing an EFA (Ntoumanis, 2001). Factor extraction criteria included the factors having an eigenvalue greater than one, thus exhibiting more variance than any one item and items were included only if they had a loading of 0.40 or greater (Halliburton & Weiss, 2002; Raedeke & Smith, 2001).

The principal axis factor analysis extracted six factors with an eigenvalue greater than one explaining 50.6% of the variance (see Table 3). Three items cross loaded (0.40 or above) on more than one factor ("To structure my training schedule"; "It was a catalyst to help improve myself" and "It made me think about setting goals") and three items ("To monitor my progress"; "To help in the evaluation of my performance"; and "It helped to get something down on paper") failed to attain a loading of .40 or above on any factor and thus these items were removed. Triangular consensus among three research professionals obtained labels for all six factors.

The first factor extracted from the analysis pointed to a motivational theme with items such as motivation to train and improve, take more control and responsibility and to set goals. The second theme, labelled coach related performance development, indicated the importance of using the profile findings to facilitate communication and understanding between coach and athlete, in addition to helping the coach individualise the athlete's training. The third theme highlighted the use of profiling in positively influencing the athlete's confidence.

A self-awareness theme emerged from the fourth factor with items such as, highlight my strengths and weaknesses, and help me decide what I need to work on. The fifth factor extracted indicated the profile's role in providing sports-based knowledge through a greater awareness of the demands of athlete and other positions in addition to helping to highlight strategies to improve. The final factor extracted alluded to the performance evaluation impact of the technique through items such as to help record my improvements and provide after match analysis.

Cronbach Alpha scores are also presented for each factor in Table 3. Ntoumanis (2001) suggests that Cronbach alpha scores should be above 0.70 in order to show good internal reliability. Whilst half of the factors indicate good internal reliability, the "confidence", "self-awareness" and "sports-based knowledge" factors produced alpha values below recommended levels. The EFA findings should therefore be observed with caution.

Effect of gender

The final analysis examined whether any gender differences existed in the factor responses (for example, did males perceive the profiling procedure to be more beneficial for enhancing their self-awareness in comparison to female athletes). A MANOVA revealed no significant gender differences (Wilks' $\lambda = .981$, $F(6, 184) = .592$, $p > .05$, $\eta^2 = .02$, $\beta = .23$) for the factor mean scores.

Table 3. EFA of athlete-perceived impacts/benefits of performance profiling.

	Factor					
Impact/benefit item	1	2	3	4	5	6
Motivation						
To take more control of my development	**.68**	.13	.26	.10	.16	.14
To take more responsibility for my development	**.63**	-.01	.26	.24	.09	.35
To motivate me to train	**.62**	.07	.12	.04	.30	.17
To motivate me to improve	**.60**	.06	.14	.27	.25	.13
To set goals for myself	**.59**	.37	.31	.32	.19	-10
Coach-related performance development						
To help the coach individualise my training	-.02	**.80**	.08	04	.12	.12
To improve the coach's understanding of me	.07	**.76**	.16	.05	.01	.13
To aid communication with my coach	.19	**.60**	.04	.17	.21	.02
Confidence						
It helped to enhance my confidence in my ability	.07	.07	**.58**	.07	.02	.21
To build my confidence	.14	.15	**.53**	.13	.07	.10
Self-awareness						
Helped to highlight my weaknesses	.11	.14	.04	**.68**	.06	.11
To help me decide what I need to work on	.26	.16	.32	**.50**	.31	-.02
Helped to highlight my strengths	.19	.01	.20	**.49**	.19	.26
Sports-based knowledge						
Helped to highlight the demands of my position	.15	.14	-.01	.15	**.63**	.01
Helped to highlight the demands of other positions	.21	.08	.09	.12	**.44**	.09
It helped to highlight strategies to improve	.24	.12	.32	-.03	**.41**	.13
Performance evaluation						
To provide after game analysis	.16	.31	.23	.17	.04	**.69**
To record my improvements	.38	.20	.18	.19	.23	**.53**
Cronbach alpha score	0.85	0.79	0.57	0.68	0.57	0.75
Eigenvalue	3.25	2.45	2.10	1.60	1.51	1.22
% of variance explained	13.5	10.2	8.8	6.7	6.3	5.1
Cumulative % of variance explained	13.5	23.7	32.5	39.2	45.5	50.6

Note: Numbers in bold represent the factor loading value for each item from the questionnaire that was loaded to a particular factor.

Discussion

The present study provided the first systematic attempt to examine athlete perceptions regarding the usefulness and impacts of producing individual performance profiles within a group setting. The present findings indicate that athletes believe profiling to be useful and that they would benefit from profiling in the future. This supports previous research advocating consultant opinions as to the usefulness of the profiling procedure (Butler & Hardy, 1992; Butler, Smith, & Irwin, 1993; Dale & Wrisberg, 1996; D'Urso et al., 2002; Jones, 1993; Weston, 2008).

The primary aim of this exploratory study was to investigate athlete perceptions of firstly, the most important impacts of a single profiling session and secondly, the benefits of utilising profiling in the future. Descriptive findings from both interview and APPQ responses indicated that athletes believed a single profiling session would help to highlight their strengths, weaknesses, and the demands of their and other positions. Athletes also predicted profiling in the future

would be useful in helping them to determine what they needed to work on, motivate them to improve and train, set goals, take more control and responsibility for their development, and monitor and evaluate their performance.

Examination of the EFA revealed six impact/benefit themes of producing individual athlete performance profiles within a group setting. The first theme, explaining the greatest variance, suggested the profile procedure's role in motivating athletes. Drawing upon Deci and Ryan's (1985) CET, Butler and Hardy (1992) theorised that the autonomy supportive nature of profiling would facilitate more self-determined athlete motivation, a suggestion that has since been supported by other consultants (Doyle & Parfitt, 1999; D'Urso et al., 2002; Jones, 1993). The present descriptive findings support athletes' beliefs that the profiling procedure would help them to take more control for their development in addition to motivating them to train and improve in the future.

Another important motivational mediator, hypothesised within CET, is perceived competence. Both the study 1 interviews and study 2 EFA identified a confidence profiling impact theme. However, whilst Butler (1995) has suggested profiling could be useful in protecting or building an athlete's confidence, the study 2 descriptive findings revealed only moderate support for this impact. This is probably due to the fact that the profile is just as likely to reinforce performance decrements as it is improvements when employed to monitor progress over time (Butler et al., 1993). Hence, practitioners employing the procedure with athlete populations should be wary as to the possible negative impact that profiling over time could have on athlete confidence.

Given the theoretical rationale (Butler & Hardy, 1992), anecdotal consultant opinions (Doyle & Parfitt, 1999; D'Urso et al., 2002; Jones, 1993), and now descriptive athlete evidence to suggest profiling could have a positive influence on athlete autonomy, confidence and intrinsic motivation, empirical research is needed to ascertain whether profiling over time is able to initiate significant improvements in these psychological variables. Such research would help to establish whether profiling is a viable strategy in improving athlete intrinsic motivation over time.

A third theme to emerge from the EFA emphasises the key role that profiling could have in encouraging coach-athlete discussion regarding performance-related issues. Given the importance placed on effective coach-athlete relationships (Jackson, Knapp, & Beauchamp, 2009), the descriptive findings of study 2 provide above moderate support that performance profiling could enhance coach-athlete communication, the coach's understanding of their athlete, in addition to helping them individualise the athlete's training. This supports previous descriptive research which has demonstrated the profile's usefulness in facilitating interaction and communication between coaches and athletes (Butler, 1989; Butler & Hardy, 1992; Butler et al., 1993; Dale & Wrisberg, 1996). The strength of support for these benefits may have been tempered by some athletes being unaware as to how responsive and/or available their coaches would be to sit down and discuss their profile responses. Indeed, given the lack of literature examining coach perceptions of performance profiling, research is urgently needed to ascertain firstly, whether coaches believe the investment in time utilising profiling with their athletes is worthwhile; secondly, what benefits they believe result from using profiling; and finally, what adaptations of the procedure (e.g., one-to-one versus group procedures; athlete, coach and team profiles; standard versus extended profiling approaches) are most useful and why.

The fourth and fifth themes to emerge from the EFA emphasise the procedure's ability to raise athlete self-awareness as to their strengths, weaknesses and what they need to work on, in addition to highlighting the demands of their and other positions within their team. The strong support for these profiling impacts observed within both of the present studies support consultant comments found in prior literature (Butler, 1997; Butler & Hardy, 1992; Butler et al., 1993). The topic of

self-awareness, and indeed strategies to facilitate greater self-awareness, appear to have received little attention within the sport literature (Ravizza, 2001). However, the present findings do suggest that athletes believe profiling could help to facilitate greater self-awareness albeit further empirical research is needed to support these descriptive findings.

The final EFA theme centred on the performance evaluation capabilities of performance profiling. Athletes in studies 1 and 2 believed that profiling would help to evaluate their performance, provide after match analysis and help to record their improvements thus supporting previous consultant beliefs (Butler & Hardy, 1992; Butler et al., 1993). Intuitively the profiling approach may help athletes restrict the reasons for their performances to a set number of internal, personally controllable and unstable attributes. Weiner (1986) suggests that employing such functional attributions will result in more positive cognitive and behavioural outcomes. Therefore, whilst some limited research has examined the effectiveness of attribution retraining strategies (Orbach, Singer, & Price, 1999), future research may wish to examine how effective profiling is in helping athletes move from a dysfunctional attribution mindset (e.g., external, uncontrollable and stable) to a more functional attributional style. Additionally, it would be interesting to establish whether profiling employed in this way is able to facilitate the positive psychological and behavioural outcomes proposed by Weiner and if so, how often profiling needs to be delivered in order to initiate improvements in these variables.

Despite the client-centred performance profiling technique being in existence for almost two decades, the present exploratory study provides the only systematic examination of athlete perceptions as to the usefulness and benefits of the procedure. Furthermore, the study has been able to support and extend the existing mainly descriptive consultant-based profiling literature and thus clarify the usefulness of the technique. There are, however, a number of limitations within the present study which will now be discussed.

Limitations

Firstly, athletes only experienced a single profiling session from which they were then being asked to consider the possible benefits that could be accrued from future use of the technique. Hence a proportion of the present findings are therefore based more on predictions rather than actual experience had the athletes been profiled several times throughout a competitive season. Future research should attempt to build on the present findings and empirically examine the influence of repeatedly employing profiling across a competitive season on the various impacts/benefits found in the present study. In order to achieve this aim, further psychometric testing of the APPQ is needed to augment the initial EFA performed in the present study and thus develop a more valid and reliable inventory for measuring the profile's impacts and benefits. Conducting this research is vital in providing a firm evidence base to justify the frequent applied use of the technique (Weston, 2008).

Secondly, whilst a range of athletes across both genders and several team sports were examined, these were restricted to college level athletes and thus broader generalisations of the findings to other athlete demographics cannot be assumed. Therefore, further research is required to examine the usefulness of the procedure across a wide range of sports, ages and levels so that greater confidence in the efficacy of the procedure can be established.

Thirdly, the present exploratory investigation attempted to focus on the examining the original profiling procedure presented by Butler and Hardy (1992). Whilst the authors acknowledge the range of alternative profiling procedures available to practitioners, it would have been impossible to examine athlete perceptions of all of them in this research article. Hence, practitioners should be wary as to the type of profiling approach that has been examined here and that future research needs to evaluate athlete opinions of other profiling methods.

Finally, the present investigators made a conscious decision to focus their examination of athlete opinions on the possible practical benefits of the strategy rather than reflecting on the profile's limitations/weaknesses. Researchers should therefore endeavour to evaluate athlete opinions as to the limitations and possible ways of improving the strategy both when employing the one-to-one and group profiling procedure. It would also be useful to compare the efficacy of Butler and Hardy's (1992) traditional profiling approach with Gucciardi and Gordon's (2009) newly established extended version.

Conclusion

The present investigation provided the first systematic exploratory examination of athlete perceptions as to the impacts of performance profiling. Athletes, across a wide variety of team sports, believed producing individual performance profiles in a group setting to be generally very useful, and that they would benefit from similar sessions in the future. Furthermore, athletes believed profiling to be helpful in facilitating aspects of self-awareness, enhancing motivation, providing a useful basis for goal setting, and in helping evaluate and monitor their progress. The strategy was deemed less useful in helping to build athlete confidence. More research is required to examine the efficacy of the technique across longer time frames, different delivery approaches and alternative athlete demographic backgrounds. Furthermore, given the technique's frequent applied use, yet limited experimental testing (Weston, 2008), it is critical that researchers empirically examine the effectiveness of profiling in bringing about the impacts proposed by athletes in the present study.

References

Biddle, S.J.H., Markland, D., Gilbourne, D., Chatzisarantis, N.L.D., & Sparkes, A.C. (2001). Research methods in sport and exercise psychology: Quantitative and qualitative issues. *Journal of Sports Sciences*, *19,* 777–809.

Butler, R.J. (1989). Psychological preparation of Olympic boxers. In J. Kremer & W. Crawford (Eds.), *The psychology of sport: Theory and practice* (pp. 74–84). Belfast: BPS Northern Ireland Branch.

Butler, R. (1995). Athlete assessment: The performance profile. *Coaching Focus*, *29,* 18–20.

Butler, R. (1997). Performance profiling: Assessing the way forward. In R.J. Butler (Ed.), *Sports psychology in performance* (pp. 33–48). Oxford: Butterworth-Heinemann.

Butler, R.J., & Hardy, L. (1992). The performance profile: Theory and application. *The Sport Psychologist*, *6,* 253–264.

Butler, R.J., Smith, M., & Irwin, I. (1993). The performance profile in practice. *Journal of Applied Sport Psychology*, *5,* 48–63.

Dale, G.A., & Wrisberg, C.A. (1996). The use of a performance profile technique in a team setting: Getting the athletes and coach on the 'same page'. *The Sport Psychologist*, *10,* 261–277.

Deci, E.F., & Ryan, R.M. (1985). *Intrinsic motivation and self determination in human behaviour.* New York: Plenum Press.

Doyle, J.M., & Parfitt, G. (1997). Performance profiling and constructive validity. *The Sport Psychologist*, *11,* 411–425.

Doyle, J.M., & Parfitt, G. (1999). The effect of induced mood states on performance profile areas of perceived need. *Journal of Sports Sciences*, *17,* 115–127.

D'Urso, V., Petrosso, A., & Robazza, C. (2002). Emotions, perceived qualities, and performance of rugby players. *The Sport Psychologist*, *16,* 173–199.

Gucciardi, D.F., & Gordon, S. (2009). Revisiting the performance profile technique: Theoretical underpinnings and application. *The Sport Psychologist*, *23,* 93–117.

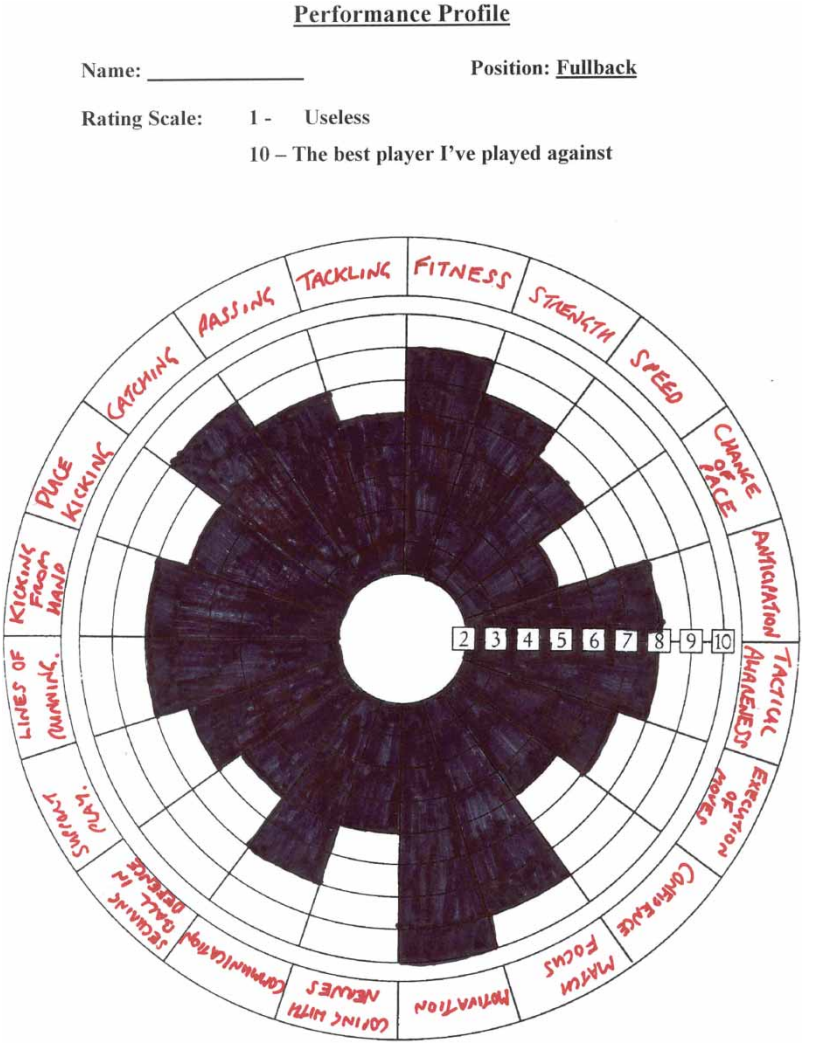
Halliburton, A.L., & Weiss, M.R. (2002). Sources of competence and perceived motivational climate among adolescent female gymnasts varying in skill level. *Journal of Sport & Exercise Psychology*, *24,* 396–419.

Jackson, S.A., & Marsh, H.W. (1996). Development and validation of a scale to measure optimal experience: The flow state scale. *Journal of Sport & Exercise Psychology*, *18,* 17–35.

Jackson, B., Knapp, P., & Beauchamp, M.R. (2009). The coach-athlete relationship: A tripartite efficacy perspective. *The Sport Psychologist*, *23,* 203–232.
Jones, G. (1993). The role of performance profiling in cognitive behavioural interventions in sport. *The Sport Psychologist*, *7,* 160–172.
Kelly, G.A. (1955). *The psychology of personal constructs* (Vols. 1 & 2). New York: Norton.
Kelly, G.A. (1991). *The psychology of personal constructs: A theory of personality* (Vol. 1). London: Routledge.
Loewenthal, K.M. (2001). *An introduction into psychological tests and scales* (2nd ed.). Hove, UK: Psychology Press.
Manley, A.J., Greenlees, I., Graydon, J., Thelwell, R., Filby, W.C.D., & Smith, M.J. (2008). Athletes' perceived use of information sources when forming initial impressions and expectancies of a coach: An exploratory study. *The Sport Psychologist*, *22,* 73–89.
Martin, S.B. (2005). High school and college athletes' attitudes toward sports psychology consulting. *Journal of Applied Sport Psychology*, *17,* 127–139.
Ntoumanis, N. (2001). *A step-by-step guide to SPSS for sport and exercise studies*. London: Routledge.
Orbach, I., Singer, R.N., & Price, S. (1999). An attribution training program and achievement in sport. *The Sport Psychologist*, *13,* 69–82.
Patton, M.Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). London: Sage.
Raedeke, T.D., & Smith, A.L. (2001). Development and preliminary validation of an Athlete Burnout Measure. *Journal of Sport & Exercise Psychology*, *23,* 281–306.
Ravizza, K. (2001). Increasing awareness for sport performance. In J.M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (pp. 171–181). Mountain View, CA: Mayfield.
Tabachnick, B.G., & Fidell, L.S. (1996). *Using multivariate statistics*. New York: HarperCollins College.
Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer-Verlag.
Weston, N.J.V. (2008). Performance profiling. In A.M. Lane (Ed.), *Topics in applied psychology: Sport and exercise psychology* (pp. 91–108). London, UK: Hodder Education.
Yoo, J. (2000). Factorial validity of the coping scale for Korean athletes. *International Journal of Sport Psychology*, *31,* 391–404.

Appendix 1.

Rugby union player performance profile example



Appendix 2.

Athlete performance profile questionnaire.

Athlete Performance Profile Questionnaire

Directions: This questionnaire is designed to evaluate the impact of using the performance profile from an athlete perspective. All the questions relate to aspects of the process of completing your own performance profile.

The questionnaire does not require your name and therefore **all responses** are completely **confidential. There are no right or wrong answers**. Please answer every question **as honestly as possible** relating to the **session you have just been involved in**. If you do not understand the meaning of any of the questions please ask the researcher for an explanation.

Background Information

GENDER: **Male / Female** AGE:_____ SPORT:_____

HAVE YOU PARTICIPATED IN A PERFORMANCE PROFILE SESSION BEFORE?

YES / NO

If yes, where, when and by whom was the session taken?

_____

_____

(i) Generally, how **useful** did you find the **performance profile** to be?

Not At All		**Moderately**		**Very Much**	**Don't Know**
1	2	3	4	5	6

(ii) How much do you believe that you would **benefit** from participating in a similar session in the future?

Not At All		**Moderately**		**Very Much**	**Don't Know**
1	2	3	4	5	6

(iii) Please indicate, on the scale provided, the **level of impact** the **performance profiling session** had on the following:

	Not At All		**Moderately**		**Very Much**	**Don't Know**
Helped to highlight my strengths	1	2	3	4	5	6
Helped to highlight my weaknesses	1	2	3	4	5	6
Helped to highlight the demands of my position	1	2	3	4	5	6
It helped to get something down on paper	1	2	3	4	5	6
It helped highlight strategies to improve	1	2	3	4	5	6
It helped to enhance my confidence in my ability	1	2	3	4	5	6
It was a catalyst to help improve myself	1	2	3	4	5	6
It made me think about setting goals	1	2	3	4	5	6
Helped to highlight the demands of other positions	1	2	3	4	5	6

(iv) Please indicate on the scale provided the extent you would **benefit** from **using** the **performance profile** in the future:

	Not At All		**Moderately**		**Very Much**	**Don't Know**
To build my confidence	1	2	3	4	5	6
To help me decide what I need to work on	1	2	3	4	5	6
To monitor my progress	1	2	3	4	5	6
To aid communication with my coach	1	2	3	4	5	6

(*Continued*)

Appendix 2. Continued

	Not At All		Moderately		Very Much	Don't Know
To set goals for myself	1	2	3	4	5	6
To take more control of my development	1	2	3	4	5	6
To motivate me to train	1	2	3	4	5	6
To motivate me to improve	1	2	3	4	5	6
To structure my training schedule	1	2	3	4	5	6
To help in the evaluation of my performance	1	2	3	4	5	6
To help the coach individualise my training	1	2	3	4	5	6
To improve the coach's understanding of me	1	2	3	4	5	6
To provide after game analysis	1	2	3	4	5	6
To record my improvements	1	2	3	4	5	6
To take more responsibility for my development	1	2	3	4	5	6

Thank you for completing this questionnaire