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Evaluating the Effectiveness of Applied Sport Psychology Practice: Making the Case for a Case Study Approach

Ailsa G. Anderson
University of Strathclyde
Glasgow

Andrew Miles
University of Wales Institute
Cardiff

Craig Mahoney
University of
Wolverhampton

Paul Robinson
University College
Worcester

Applied sport psychology has entered an “age of accountability” (Smith, 1989) and the need to develop appropriate methods to evaluate practice has been well documented (Grove, Norton, Van Raalte, & Brewer, 1999; Streat, 1998). In this paper, we have developed a framework within which practitioners can assess the effectiveness of their practice and collect evaluative information that will increase their accountability to the stakeholders. We argue that a practitioner administered case study approach to evaluation, using a number of effectiveness indicators in triangulation, is appropriate to accommodate the constraints of a practice setting and fulfill the functional criteria for evaluating practice. Further discussion on when to evaluate practice and criteria for determining effectiveness is undertaken.

In recent years, applied sport psychology practice (ASPP) has grown and developed considerably. Specifically in the United Kingdom (UK), lottery revenue funding has influenced high performance sport by providing elite athletes

Ailsa Anderson is with the Scottish School of Sport Studies at the University of Strathclyde, 76 Southbrae Drive, Glasgow G13 1PP. E-mail: anderson_ailsa@hotmail.com. Andrew Miles is with the School of Sport, Physical Education and Recreation at the University of Wales Insitutue, Cardiff, UK. Craig Mahoney is with the School of Sport, Performing Arts, and Leisure at the University of Wolverhampton, Walsall, UK. Paul Robinson is with the Department of Physical Education and Sport Studies at the University College Worcester, UK.

with a wide range of support services, including sport psychology. As the field of sport psychology grows toward professional status, practitioners must accept and address the new levels of public accountability and responsibility that comes with professionalism (Rowell, 1998; Smith, 1989). Specifically, practitioners must take responsibility for evaluating and documenting their effectiveness. Streat (1998) suggested that the need for effective evaluation is now one of the “most pressing needs in applied sport psychology . . . and one that is essential for the growth of the field” (p. 340). Grove, Norton, Van Raalte, and Brewer (1999) also noted that the need for systematic evaluation of mental skills training programs is “a significant professional practice issue in applied sport psychology” (p. 107). Nevertheless, systematic evaluation of practice is not customary in the field and “rather conspicuous by its absence” (Hardy & Jones, 1994, p. 2). Vealey and Garner-Holman (1998) called for further discussions and fresh perspectives on how best to evaluate practice. In this paper, we aim to propose a framework within which evaluation of the effectiveness of applied sport psychology practice with athletes can be undertaken.

Taking a Fresh Perspective

It is our belief that effective evaluation of ASPP has been hindered somewhat by a lack of clarity and discussion regarding two fundamental considerations. First, consideration of the characteristics of an applied setting is required in order to identify which evaluation methods can be accommodated within it. Second, consideration of the reasons why evaluation is being undertaken is needed in order to ensure the evaluation methods adopted fulfill these goals (Patton, 1998). The aim of this paper is to explore these two major considerations and, by drawing on research and practice within other areas of applied psychology and program evaluation, propose a framework within which appropriate evaluation of the effectiveness of ASPP can be undertaken. Subsequently, this framework is used to address key questions related to evaluating practice: (a) who should evaluate, (b) what should be evaluated, (c) when should evaluation be undertaken, and (d) how effective is effective. This focus on effectiveness is deliberate because it is necessary to address the question of whether the support was effective before questions of efficiency or cost-effectiveness can be considered (Milne, 1996).

The activities that practicing applied sport psychologists should be involved in is subject to continued debate, with some practitioners primarily focusing on performance enhancement issues and others adopting more holistic approaches addressing the overall well-being of the athlete (Andersen, 2000; Petitpas, 1996). This paper is not a forum for this debate, but a position is necessary in order to frame the proposed model. The evaluation model presented in this paper was developed to address issues pertinent to and within the social-political context of sport psychology practice in the UK and was, therefore, guided by the primary activities of these practitioners. Within the UK, most practitioners are neither clinically nor counseling trained and instead work within an educational performance enhancement framework (Biddle, Bull, & Seheult, 1992). Further, the results of a recent survey of British Association of Sport and Exercise Sciences (BASES) accredited UK practitioners suggested that their main aim when working with athletes is to improve performance. This primary aim is also supplemented by aims to improve the quality of the sport experience, improve psychological skills, and

enhance general well-being and personal development (Anderson, 1999a). Consequently, this paper has adopted the position that UK practitioners work within an educational performance enhancement framework in which they aim to develop psychological skills, improve athlete well-being, and also improve the quality of the sport experience. This position is consistent with Thomas (1990), Vealey (1994), and Williams and Straub (1993). This position, however, may limit the application of the model within other contexts.

Consideration 1: The Characteristics and Aims of ASPP

The general field of applied sport psychology is principally concerned with the application of theories, principles, and techniques from psychology to induce psycho-behavioral change in athletes to enhance performance, the quality of the sport experience, and the personal growth of the athlete (Vealey, 1994; Williams & Straub, 1993). The field has been recognized as a scientific and applied discipline, and the activities of sport psychologists reflect these dual roles (McCullagh, 1998). The presence of both a research-oriented branch, including basic and applied research, and a practice-oriented branch within applied sport psychology has been consistently acknowledged (Dishman, 1983; Weiss, 1998). In addition, it has been steadfastly argued that the two branches should not become distant relatives but influence and inform each other (McCullagh, 1998; Vealey & Garner-Holman, 1998). In this journal, the two branches are represented in the applied research and professional practice sections.

Evaluation of intervention effectiveness within basic and applied research and practice is required in order to develop a credible scientific and knowledge base for the field of applied sport psychology (Strean & Roberts, 1992). There are, however, fundamental differences in the characteristics and aims of each of these activities (Peterson, 1991), and these characteristics and aims should influence the evaluation approach adopted. In practice, the primary goal is client improvement, and the welfare of the client is paramount (Barlow, Hayes, & Nelson, 1984; Smith, 1988). As within clinical psychology practice, "each problem must be addressed as it occurs in nature, as an open living process in all of its complexity" (Peterson, 1991, p. 426). Therefore, the service should be driven by the idiosyncratic needs and demands of each individual client, and the practitioner must strive to provide the best service possible to increase the likelihood of improvement.

In applied research, the goal of the activity is to generate theory-based knowledge and answer problems related to the applied setting in a systematic manner (Barlow et al., 1984; McCullagh, 1998). Athlete improvement is hoped for but is not the central issue because in applied research, the individual athlete's needs did not start the sequence of events. The athlete was recruited and engaged in the intervention because it was developed as a research study, not because the athlete required service provision. In basic research, Barlow et al. (1984) argued that client improvement is not even a secondary issue, instead developing an understanding of the processes and meeting the rigorous demands of science is the sole focus. The characteristics of practice differ from basic and applied research, and in developing a model to evaluate ASPP, it is helpful to bear in mind the primary goal of that setting and recognize that this focus will necessarily constrain the methods of evaluation that are available to the practitioner.

Consideration 2: Why Evaluate ASPP?

There are a variety of approaches to evaluation (House, 1978). Patton (1998), however, recently argued that a utilization-focused approach to evaluation is most valuable because it aims to ensure evaluations are practical, problem-solving undertakings. He argued that the first step in developing an appropriate *modus operandi* for evaluation is to identify the primary reason for undertaking the evaluation, and subsequent decisions (e.g., methodological design) should be influenced by this underlying premise. A utilization-focused approach can help ensure that practitioners do not adhere dogmatically to one philosophical or methodological approach but instead structure the evaluation to address the questions that need to be answered. Jones (1985) argued that evaluators must “use whatever you have in your toolbox that will get the job done” (p. 258).

Chelimsky (1997) identified three fundamental reasons for undertaking evaluation: (a) to render judgment, (b) to facilitate improvement, and (c) to generate knowledge. These reasons are not mutually exclusive and an evaluation may be undertaken to serve all three purposes (Patton, 1998). A judgment-oriented evaluation is influenced by the need to assess the value and worth of a program in order to make it accountable (Chelimsky, 1997). The evaluation is normally summative and focuses on judging whether needs were met, goals were achieved, and standards were attained. In short, a judgment-oriented evaluation aims to document the effectiveness of a program and is typically undertaken by fund holders and external evaluators. By contrast, Chelimsky suggested that improvement-oriented evaluations are usually formative, concerned with monitoring program activities, and are undertaken by program management, staff, and participants. Improvement-oriented evaluations are undertaken to consider what the strengths and weaknesses of the program are, whether participants are progressing toward intended outcomes and where improvements could be made. Knowledge-oriented evaluations are typically undertaken by academics, and the results are generally used conceptually to increase understanding of the program, interventions, and participants. Whereas the results from judgment- and improvement-oriented evaluations are typically used to direct action, the results of a knowledge-oriented evaluation may lead to scholarly publication. Patton (1998) suggested that this knowledge-oriented approach may be considered research more than evaluation.

In order to develop a utilization focused evaluation model for ASPP, it is helpful to consider why practice should be evaluated and how the findings will be used, so that the agenda and priorities of the evaluation can be clearly outlined, and the most appropriate approach and methods can then be selected. Identifying the stakeholders in the service can help determine to whom the practitioner must be accountable and what information is required to do this (Sheppard, 1979). We argue that in the UK, the sport psychologist is directly accountable to four stakeholders.

First, the practitioner is accountable to the athlete and has an ethical responsibility to ensure the athlete’s welfare remains central to service delivery. Monitoring and evaluating the support is necessary so that the sport psychologist can be sure that it is effective, any detrimental effects can be prevented, and improvements are made where appropriate (Partington & Orlick, 1987). Second, the sport psychologist is accountable to the secondary client, who is normally the direct

funder of the service (Sheppard, 1979). There may not be a secondary client, but in UK World Class Performance Plans, the secondary client could be any or all of the following: the coach, the governing body, or the sport institute in which the psychologist is working. The sport psychologists are typically financially accountable to the secondary client, and ongoing evaluation is required so that the psychologists can demonstrate the effectiveness of their services (Terry, 1997).

Third, we argue that sport psychologists are also accountable to themselves. That is, as professionals, sport psychologists should continually strive to improve their effectiveness and provide the best possible service they can. Partington and Orlick (1987) noted that by subjecting themselves to evaluation, sport psychologists give a clear indication that they are “committed to pursuing personal excellence in (their) consultation field in the same way that athletes are committed to pursuing excellence in their field of sport” (p. 316). Pertinent evaluative feedback will enable practitioners to develop their own skills and learn how to improve their effectiveness (Milne, 1987; Weigand, Richardson, & Weinberg, 1999). Fourth, sport psychologists are also accountable to their profession and must be able to evaluate their professional practice and demonstrate their effectiveness to become accredited or certified by the appropriate professional bodies (Weigand et al., 1999).

In order to be accountable to these four stakeholders, we argue that evaluation should be undertaken to document effectiveness and provide pertinent feedback that will facilitate improvement of practice. These reasons incorporate two of Chelimsky’s (1997) three primary reasons for conducting an evaluation. Chelimsky’s third reason for evaluating was to generate knowledge, and although this purpose is important to increase the credibility of the field, it fits more comfortably in the areas of applied and basic research. Knowledge generation is inevitably a by-product of evaluation in practice. We argue, however, that it is not a primary aim that should influence the nature of evaluation.

To summarize, we propose that the aims of evaluation in ASPP should be to document effectiveness and facilitate improvement so that sport psychologists can be directly accountable to the athlete, the secondary client, themselves, and their profession. These aims of evaluation in conjunction with the aims and characteristics of the practice setting will be used to shape the further development of an appropriate and useful model for evaluating ASPP.

How to Evaluate Practice

A number of approaches to evaluation have been used in applied sport psychology, clinical psychology, educational psychology, and organizational psychology and may be subdivided into experimental and nonexperimental methods. The appropriateness of these methods for evaluating ASPP are considered in light of the characteristics of a practice setting and the identified reasons for conducting evaluation.

Experimental Methods

Experimental approaches to evaluation (e.g., randomized control group, quasi-experimental, single-participant designs) have been developed with the aim of demonstrating that an intervention, and only the specified intervention, causes change. An experimental approach enables researchers to have confidence in their

findings because the design strives to ensure high internal validity. Certain characteristics of experimental approaches, however, are incompatible with the demands of a practice setting.

For example, the use of randomized controls is inappropriate in ASPP because it is impractical to offer a service to one group of athletes and deliberately withhold the service from another group. Fenker and Lambiotte (1987) did not use a control group in an applied setting because the philosophy of the head coach dictated that “if the program can be of benefit to some of my athletes, then I want the entire team to participate” (p. 230). Further, standardized treatments associated with randomized control group and quasi-experimental designs are typically incompatible with a practice setting in which the practitioner aims to consider the individual needs of each athlete. Single-participant designs have been championed as a practitioner-friendly alternative to evaluating interventions in practical settings (Barlow et al., 1984; Hrycaiko & Martin, 1996). Single-participant designs, however, are not unproblematic and have been viewed as time consuming, expensive, and in some cases unethical (Nelson-Gray, 1994; Smith, 1988).

Experimental research designs do not fit comfortably with the characteristics of a practice setting. As practitioners strive to control potentially confounding variables, they create an artificial environment, which bears little resemblance to practice (Goldfried & Wolfe, 1996). We argue that in practice settings, it is inappropriate to place emphasis on devising a valid research design when the athlete requires intervention. As argued above, the practitioner’s primary concern must be for the welfare and treatment of the individual athlete. Indeed, Peterson (1991) argued that although in practicing psychology “the idea that every client can be a subject and every practitioner a scientist is a noble aspiration . . . for the most part (it) is a romantic fallacy” (p. 427).

Within mental health practice, Sperry (1998) recognized that evaluation of practice had been sparse because the notion that if evaluation cannot be done “scientifically” (i.e. using experimental designs), then it should not be done at all has prevailed. Practitioners in the field of applied sport psychology should be wary of adhering to the notion of only conducting experimental evaluations and accept that the demands of practice dictate that experimental methods are inappropriate in evaluating effectiveness. Practice cannot be manipulated to accommodate evaluation, instead evaluation must adapt to the demands of practice to produce relevant findings. This emphasis on relevance, however, results in a trade-off of certainty (Sperry, 1998). Nevertheless, this trade-off can be comfortably embraced if it is accepted that the aim of evaluation in practice is not to generate knowledge by proving cause and effect between the support and the outcome, but to provide comprehensive information to document the degree of effectiveness and facilitate improvement. The goal of evaluation in sport psychology practice is not to determine unequivocally if the intervention is positively working but to provide compelling support (Strean, 1998).

Clinical psychology has recently made a useful distinction between evaluation research and evaluation of practice (Seligman, 1995). The first approach has been termed the efficacy method and involves testing standardized treatments in a controlled environment using experimental approaches, typically randomized clinical trials. The second approach has been labeled the effectiveness method and involves investigating the outcome of a therapy as it is actually delivered in routine clinical settings. Both approaches produce important information but both

have recognized limitations, although efficacy studies are more common. Nevertheless, both approaches are needed, and collaboration between researchers and practitioners is required if psychology is to continue to develop toward evidence-based practice (Barkham et al., 1998).

These distinctions between efficacy and effectiveness and evaluation of practice and research need to be recognized and accepted in applied sport psychology if appropriate evaluation of practice is to become routine. In practice, the evaluation approach adopted should accommodate the goals of that setting and the purpose of evaluation. A nonexperimental approach to evaluation is therefore more appropriate, and methods that most comfortably fit these criteria include survey and case study designs.

Nonexperimental Approaches to Evaluation

Surveys involve collecting self-report data from a representative population and typically, evaluative survey data is collected to assess consumer satisfaction with a service (Layte & Jenkinson, 1997). Within educational psychology, this method of evaluation has dominated (Dowling & Leibowitz, 1994). Applied sport psychology is a service, and it is therefore useful to assess athlete opinion regarding the service. Further, the UK Sport Institute has stated that an evaluation of whether their services are “world class” will be “principally defined by customer satisfaction” (United Kingdom Sports Council, 1998, p. 5). Using only a survey to evaluate practice, however, has limitations. For example, the client base with whom sport psychologists typically work may not be large, and this restriction can have implications for the credibility of the data. Further, on its own, survey data is not sufficient to provide evidence of intervention effectiveness because client satisfaction information may have little to do with effectiveness. For example, Parker and Thomas (1980) cited examples from education where students who learned the most rated their instructors least favorably. Satisfaction does not necessarily equate with effectiveness, and arguably, subjective survey data must be backed up with evidence from other measures to provide a fuller picture of the service.

The case study offers another nonexperimental approach to evaluation that provides a more holistic evaluative picture. A case study design is “a strategy for doing research (including evaluation) which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence” (Robson, 1993, p. 146). The case can refer to an individual person, a group of people, an institution, a service, or an intervention, and a key benefit of the case study approach to evaluating practice is that it can be undertaken in a real life context. The case study approach typically involves collecting data in the baseline phase and, at least, again once the treatment has been implemented. The design does not require a control group, and the idiosyncrasies of the practice setting and the treatment demands can be accommodated (Persens, 1991). If there is an improvement in the data when the intervention has been administered, confidence increases that the intervention is responsible for the change. The major problem with the case study approach is that it has weak internal validity and the change in the data may be attributed to other causes, for example, maturation, the personal qualities of the practitioner, or coincidental external factors (Yin, 1989). Nevertheless, greater confidence in case studies can be developed by planning them rigorously, assessing multiple dependent measures repeatedly, and triangulating evidence, replicating the results across cases, and collecting data in a

systematic and logical manner (Smith, 1988). Further, confidence in the internal validity of the case study can be increased by monitoring potentially confounding factors that may provide plausible alternative explanations for the intervention effects (e.g., Prapavessis, Grove, McNair, & Cable, 1992).

A case study approach to evaluation cannot prove that an intervention has caused any psycho-behavioral changes but it can provide evidence supporting whether the intervention is associated to some degree with improvement in the real world environment (Strean, 1998). Additionally, by evaluating multiple dependent variables, collecting both qualitative and quantitative data, the evaluation can provide a holistic picture of the intervention that can be used to document effectiveness and provide rich information that can be used to facilitate intervention improvement. The value of a case study approach to evaluation has been previously recognized in clinical psychology (Persens, 1991), educational psychology (Cherry, 1998), and applied sport psychology (Smith, 1988; Strean, 1998).

Toward An Evaluation Approach For ASPP

In order to identify an evaluation approach for ASPP, it has been useful to consider whether different approaches can accommodate the characteristics and aims of practice and fulfill the reasons for undertaking evaluation. We argue that a case study approach to evaluation offers the most appropriate method because it does not involve manipulation of service and entails collecting multiple sources of evidence that can be used to document effectiveness and facilitate improvement so that the practitioner can be accountable to the stakeholders. Further consideration of this approach to evaluation in practice is needed in order for it to evolve so that it can be implemented into a practice setting.

Who Will Evaluate

Evaluation can be undertaken by an external party or internally by those involved in the project or service (Patton, 1998). External evaluations, in theory, can examine the services with a greater degree of objectivity and can be useful for documenting effectiveness and identifying opportunities for improvement. External evaluations have been used previously to evaluate Sports Science Support Programs funded by UK Sport (Sport Science Support Programme Committee, 1995). External evaluations, however, can be problematic. For example, in educational psychology, it was recognized that the criteria for good performance were likely to be set by people with different values and priorities from those delivering the service (Cherry, 1998). Further, an external evaluation may fail to capture the subtleties and idiosyncratic characteristics of a practice context and, consequently, the information produced may be inaccurate and of little value to actual practice. Finally if, as argued above, an aim of evaluation is to facilitate improvement, it is useful that personnel within the service have a sense of ownership of the evaluation and its findings. This ownership is unlikely to occur if the evaluation criteria have been prescribed by an external party.

An internal evaluation is undertaken by those involved in the service and can focus on the process and cultural issues that are influential on the effective running and delivery of a quality service. The findings of an internal evaluation should have greater relevance and be of more use to the practitioners (Cherry,

1998). Further, Guba and Lincoln (1989) argued that change is more likely to occur as a result of an evaluation if the individuals feel they own, accept, and are empowered by the evaluation findings.

We argue that evaluation of ASPP should be undertaken internally by the practitioners themselves. This approach to evaluation should involve the regular collection of information pertinent to service delivery and provide more favorable conditions for improvement-focused evaluation. Using an internal evaluation approach to document effectiveness, however, may lead to questions regarding the credibility of the results and the honesty of the practitioners. Internal evaluations can produce credible results if the evaluation is planned and undertaken systematically using reliable and valid instruments (Robson, 1993). Determining the honesty of the practitioner is obviously more difficult, and we need to depend on practitioners' professional and ethical values.

What to Evaluate?

The proposed approach to evaluation incorporating a case study design requires the assessment of multiple dependent variables to evaluate effectiveness. The first step to identifying these dependent variables (hereafter termed effectiveness indicators) is to define explicitly the goals of practice (Fink, 1996). It is likely that the aims of ASPP will differ from case to case depending on the results of an initial needs assessment. Generic aims, however, were adopted for the purpose of this paper to reflect the aims of UK practitioners, which are to enhance performance, develop psychological skills, improve athlete well-being, and increase the quality of the sport experience. Additionally, ASPP is a service, and, as such, it is appropriate to consider the quality of that service in striving to achieve these objectives. These generic aims incorporate a number of outcomes, which is consistent with previous recommendations to use multiple criterion to evaluate the effectiveness of sport psychology (Seiler, 1992; Vealey, 1988). Four broad effectiveness indicators were identified to comprehensively evaluate these aims: (a) quality of support, (b) psychological skills and well-being, (c) athlete responses to support, and (d) performance. Evaluation of the quality of the sport experience was not undertaken because of the difficulty of assessing this as an entity in itself. Elements of this indicator, however, may be monitored through the evaluation of other indicators (e.g., well-being). Figure 1 illustrates the four broad indicators and discussion of each and its value and usefulness in fulfilling the aims of evaluation in ASPP and evaluating the generic goals of ASPP follow.

Quality of Support

The indicator named quality of support assesses consultant effectiveness and social validity.

Consultant Effectiveness. The knowledge, delivery style, and characteristics of the individual sport psychologist have a central influence on the overall effectiveness of the service (Partington & Orlick, 1987). Petitpas, Giges, and Danish (1999) suggested that the practitioner's skills in developing a working relationship characterized by trust, openness, and collaboration with the athlete are important in determining the effectiveness of the support. The key influence of the practitioner on the outcome of the service underlines the need to assess the consultant's effectiveness. Evaluative information regarding the sport psychologist

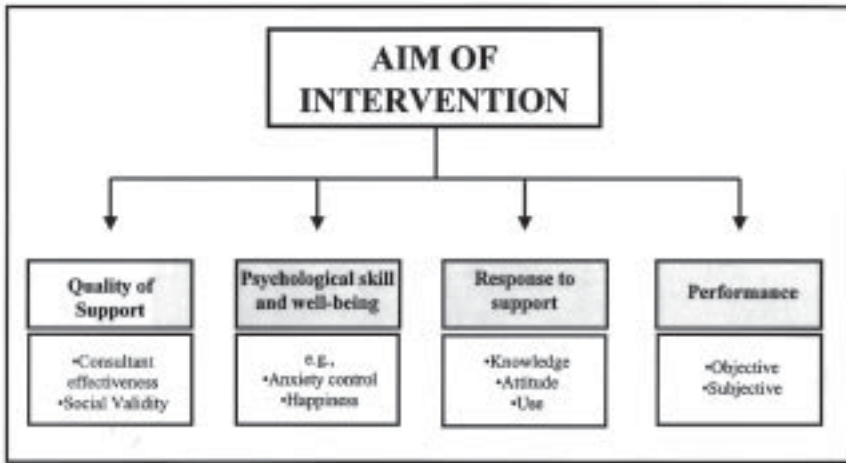


Figure 1 — Effectiveness indicators for the comprehensive evaluation of applied sport psychology practice.

can be used to document effectiveness and provide pertinent feedback for practitioners striving to increase their own professional effectiveness (Weigand et al., 1999).

Practitioners have reported the use of ongoing verbal feedback from athletes (Bull, 1997) and the use of informal interviews and “chats” (Gordon, 1990) as methods of collecting evaluative information about their effectiveness. These methods are useful for providing evaluative information to facilitate improvement, but recording chats or informal feedback to document effectiveness can be difficult. A more formal approach to evaluating consultant effectiveness is the use of standardized feedback forms. For example, Partington and Orlick (1987) developed the Consultant Evaluation Form (CEF) to assess consultant characteristics associated with effectiveness. The CEF has been used regularly in practice and is recognized as a valuable and appropriate means of evaluating consultants (Hardy & Parfitt, 1994; Poczwadowski, Sherman, & Henschen, 1998; Vealey & Garner-Holman, 1998).

An evaluation of consultant effectiveness could also be undertaken by the consultants themselves. As professionals, sport psychologists should be striving to improve their effectiveness by monitoring their own activities. Reflecting on practice is a useful way to self-evaluate one’s practice and Poczwadowski et al. (1998) suggested that “reflecting on each consulting experience is essential for maximal professional growth and development” (p. 201). A formal reflective practice model could provide a framework within which sport psychologists can reflect on their practice in a structured and effective way (see Anderson, 1999b; Anderson & Miles, 1998; Holt & Streat, 2001; Schön, 1987).

Social Validity. Evaluating the athlete’s satisfaction with the delivery of the service can provide useful information to document effectiveness and identify areas for improvement. Milne (1987) argued that within psychology practice, social validity assessment offers an appropriate framework for examining client satisfaction. An assessment of social validity assumes that the clients are the best

judges of the effect of an intervention, and feedback is based around responses to three questions (Wolf, 1978):

1. Are the target behaviors identified for treatment really the most important for the client?
2. Are the particular procedures used to achieve the end acceptable to the client?
3. Are the consumers of interventions satisfied with the results obtained, including any unpredicted ones?

Within sport psychology, Hrycaiko and Martin (1996) argued that seeking “social validation helps to ensure that practitioners do the best job that they can in helping consumers of their service function to the best of their ability” (p. 187). Assessment of social validity, however, is not common in applied sport psychology. The use of social validity measures is typically limited to single participant designs (e.g., Hanton & Jones, 1999), and within these studies, all three aspects of social validity are rarely addressed completely.

Psychological Skill and Athlete Well-Being

Psychological skills are the learned behaviors used by athletes to regulate their athletic performances (Murphy & Tammen, 1998). These skills include a number of constructs, for example, self-confidence, arousal control, motivation, interpersonal skills, and coping with injury (Thomas, 1990). Further, research has identified that elite athletes appear to have superior psychological skills, and much of ASPP has focused on developing techniques to improve these skills (Morris & Thomas, 1995; Orlick & Partington, 1988). It is therefore logical that evaluation of ASPP would include an assessment of changes in targeted psychological skills.

Typically, assessment of psychological skills is undertaken through the use of standardized psychometrics, and these tools can be useful for monitoring changes. Problems with psychometric tools, however, have been consistently reported, and their credibility for evaluating changes accurately should not be assumed (Gould, Tammen, Murphy, & May, 1989; Murphy & Tammen, 1998). More recently, techniques adhering to idiographic methodologies, such as performance profiling (Butler & Hardy, 1992), have been used in practice and may offer a useful tool for evaluating changes in psychological skills. Some practitioners prefer not to use psychometrics, arguing that sufficient pertinent information can be gleaned through talking with the athlete (Cox, 1997). This more subjective assessment of psychological skills, however, makes evaluating and documenting change more difficult.

In addition to changes in psychological skills, it may be appropriate to monitor the well-being of the athlete. Well-being is a complex multidimensional construct that can involve emotional and physical dimensions. Measurement of subjective well-being may include assessment of happiness, life satisfaction, positive affect, and quality of life, and a number of instruments have been used to assess these (Diener, 1984). Within sport psychology, emotional state has most commonly been monitored using the Profile of Mood States questionnaire (POMS; McNair, Lorr, & Droppleman, 1971; e.g., Terry, 1997).

Athletes' Responses to the Support

Vealey (1994) suggested that the athletes' responses to sport psychology services can influence the overall effectiveness of the support and it is, therefore, appropriate to evaluate these responses. These responses include changes in the athlete's

knowledge of and attitude toward sport psychology practice, as well as actual use of mental skills. A number of models of psychological skills training (PST) view education as the first step toward successful implementation (e.g., Vealey, 1988), and an assessment of knowledge change is appropriate to determine whether the athletes are learning from the intervention. Brewer and Shillinglaw (1992) used self-reported changes in knowledge to evaluate the effectiveness of PST with lacrosse players. The use of self-report data to assess knowledge changes, however, can be problematic because athletes may not accurately report their knowledge level, and an exam or test could offer a more valid method of assessing knowledge. Such tests could be developed by individual practitioners to tailor them to fit with the learning outcomes of their programs. Giving athletes tests, however, is not without its drawbacks.

Athletes' attitude toward sport psychology could also be evaluated because their views will have implications for acceptability, adoption, and service use (Brewer, Jeffers, Petitpas, & Van Raalte, 1994). Gould, Petlichoff, Hodge, and Simons (1990) assessed self-report positive changes in attitude to sport psychology of elite wrestlers following an educational program in terms of how important they perceived it to be. Recently, Martin, Wrisberg, Beitel, and Lounsbury (1997) developed an instrument to assess attitudes toward seeking a sport psychologist. This instrument has suspect psychometric properties, however, and may not be useful for evaluating attitude changes during and following support.

We argue that it is also useful to evaluate whether the athletes are adhering to prescribed mental training and demonstrating the desired behavior (e.g., implementing preshot routines, being focused in training; Bull, 1991; Crocker, 1989; Grove et al., 1999). In short, if the athletes are not using the techniques being taught, then the support is unlikely to be effective. Collecting information on the levels of adherence would enable practitioners to make any necessary changes to improve use. Mental training diaries or logbooks could be used to monitor adherence (Burton, 1998; Shambrook, 1998).

Performance

The effectiveness of applied sport psychology is ultimately judged by performance improvements. For example, in the UK, the lottery revenue funded World Class Performance Plans (WCPP) provide sport governing bodies with performance oriented funding (World Class Programme, 1998). In their plans, the sports have set clear performance goals against which they will be evaluated. Given that in some cases, large proportions of WCPP funding is allocated to sports science, psychologists must be prepared to be accountable to governing bodies in terms of similar performance targets (Rowell, 1998). As professional sport grows, and the money invested in it increases, the reality is that performance and results will increasingly become the yardstick against which all sports support people, including sport psychologists, may be judged. A number of measures may be used to assess outcome performance, for example, win/loss ratios, placings in competition, rankings in the world, and medals won. These types of data are usually based on hard facts (e.g., one wins or one does not). If other measures such as performance improvements are used, then the reliability of their assessment may be increased by using a standardized observation system or notational analysis. These methods evaluate technical and tactical aspects of performance and could be incorporated into a multi-component evaluation (Hughes, 1998).

Assessing objective performance alone is insufficient to provide a comprehensive picture of outcome, because it is difficult to demonstrate conclusively a direct relationship between any intervention and objective performance. Performance does not occur in isolation, and numerous factors can serve to influence the outcome (e.g., the weather, the opponent, a freak injury). The athlete's subjective assessment of performance in conjunction with objective performance would provide a more comprehensive picture (Holder, 1997). A number of sport psychologists have developed performance evaluation instruments that were designed to encourage the athlete to record, reflect, and learn from their performances (e.g., Orlick, 1986; Ravizza, 1998).

Summary of Effectiveness Indicators

Four broad indicators have been identified that may be useful to evaluate the effectiveness of ASPP. If the generic aims of ASPP are accepted as to provide a quality service to develop psychological skills and improve athlete well-being, performance, and the quality of the sport experience, then a comprehensive evaluation should assess all four indicators. Using any of the indicators individually to evaluate effectiveness will provide limited, and possibly insufficient, information to document effectiveness and facilitate improvements in practice. For example, using performance as a sole measure of effectiveness is problematic because the evaluation is focused solely on the outcome of the support. This focus provides no information on what occurred during the build-up to this outcome and, consequently, does not identify factors that may be developed to improve the service (e.g., increase adherence levels). Further, information based solely on the athletes' responses to the support is insufficient in itself to claim effectiveness of practice. For example, a sport psychologist may be particularly charismatic, fun to have around, and "talk a good game" but may not provide an effective intervention that would improve performance or psychological skills. We argue that whenever possible practitioners should aim to conduct a comprehensive evaluation by collecting information from multiple sources. Nevertheless, as illustrated in Figure 1, the aim of the individual support should influence the basis on which the effectiveness will be judged. For example, an intervention with junior athletes may aim to provide an introduction to applied sport psychology. Performance changes may not be an expected consequence, and it would be inappropriate to assess these.

Within a case study approach to evaluation, the battery of effectiveness indicators can be used in triangulation to evaluate support comprehensively (Robson, 1993). As each measure validates the others, there is less need for a control group, and confidence that the support was effective increases. For example, Thomas and Fogarty (1997) used a combination of measures, including performance, self-report psychological skills, and a feedback questionnaire to evaluate the effectiveness of a PST program for golfers. Due to the applied setting, there was no control group, and therefore it could not be conclusively argued that the performance improvement was due to the PST. Thomas and Fogarty, however, argued that when examined in tandem with data on improvements in psychological skills, "it is reasonable to suppose this change is at least partly responsible for the improved performance" (p. 101). This evaluation approach cannot "prove" that the intervention was effective, but it can provide compelling support and useful information to facilitate improvement (Strean, 1998).

When to Evaluate Practice

Within a case study design, each indicator is assessed at least pre and post intervention (Yin, 1989). Further confidence in the effectiveness of the service and more information that could facilitate improvement would be gained by assessing all of the indicators more often than pre and post intervention. It is likely that the appropriate time to assess each indicator will differ. In program evaluation, Bennett (1982) conceptualized a relationship between the five “chain of events” in a program and the “levels of evidence” needed for evaluating each event. This model could be useful in facilitating appropriate evaluation in applied sport psychology. Table 1 illustrates Bennett’s model as it has been adapted for the present paper and applied to ASPP.

Event 1 is termed the Initiation of the Support, and at this stage, a baseline assessment of the athlete’s characteristics should be undertaken (e.g., psychological skills, knowledge, attitude, well-being). Event 2 is called the Reactions Stage because Bennett (1982) argued that as participants engage in the support, they will respond to it with varied levels of satisfaction and interest. At this stage in ASPP, a measure of social validity and consultant effectiveness would be appropriate. Event 3 is labeled Knowledge, Attitude, and Skill Change because changes in each of these attributes is expected as a result of engaging in the support. At this stage, it is appropriate to evaluate changes in knowledge, attitude, and psychological skills. Event 4 is termed Practice and Behavior Change and an evaluation of adherence and performance could be undertaken. Event 5 is labeled the End of the Support, and Bennett suggested that achievement of the support goals and the overall impact should be evaluated. At this stage, it may be appropriate to revisit each of the indicators in order to evaluate overall effectiveness.

Adaptations from Bennett’s (1982) model offer useful guidelines on when to assess each indicator in evaluating ASPP. The model, however, may be too

Table 1 When to Evaluate Practice—An Adaptation of Bennett’s (1982) Model

Chain of Events	Level of Evidence
1. Initiation of support	The characteristics of athletes (psychological skills, well-being, knowledge, attitude, previous use)
2. Reactions	What the athletes say about the intervention (satisfaction, perception of consultant)
3. Knowledge, attitude, and skill change	Measure of individual and group changes in knowledge, attitude, psychological skills, and well-being
4. Practice and behavior change	Measure of adherence and performance
5. End of support	Measure of overall effectiveness: assessment of all indicators

simplicistic. For example, changes in behavior (e.g., practicing imagery), which relate to Event 4, may be necessary before changes in psychological skills are evident (Event 3). Changes in psychological skill may also be necessary before an athlete can adopt and use the skills in competition. There is a need to further consider the different levels of behavior change. Additionally, evaluation of the maintenance of the intervention effects over time should be undertaken to determine whether the effects of the support are enduring (Vealey, 1994).

How Effective is Effective?

In developing a framework for evaluating practice, it is appropriate to consider what level of change is expected in each of the effectiveness indicators before it can be said that the support was effective. The definition of effectiveness adopted by each of the stakeholders may differ. For example, if athletes feel that they got on well with the practitioner and learned to deal with their precompetition anxiety, then they may perceive the support as effective. The governing body, however, may require evidence of performance improvements to indicate effectiveness. Nevertheless, in line with the model proposed in this paper, a comprehensive evaluation incorporating all of the effectiveness indicators should be undertaken to document fully effectiveness and facilitate improvement.

Assessment of consultant effectiveness and social validity are feedback mechanisms related to service quality. Criteria scores may be established that indicate a level of effectiveness. For example, Partington and Orlick (1987) indicated criteria that could be used to assess whether a practitioner's score on the CEF was acceptable. Establishing criteria is a useful approach and criteria for social validity measures could be developed and used to compliment qualitative data. Validation and consensus on criteria measures, however, are not currently established.

The definition of effectiveness for improvements in psychological skill, well-being, performance, adherence, attitude, and knowledge will vary from individual to individual. The use of norm scores is inappropriate because it is likely that what is "sufficient" improvement for one athlete may be insufficient for another. An approach that could offer a useful method of assessing effectiveness is goal attainment scaling (GAS; Kiresuk & Sherman, 1968).

GAS was initially devised for use in clinical settings and is a method that involves setting individual realistic and attainable goals, enabling individual cases to act as their own control in the definition of success. Smith (1988) recognized that GAS has considerable potential for effectively assessing the outcome of individualized interventions in applied sport psychology and some researchers have used it effectively (Martin, Thompson, & McKnight, 1998; Savoy, 1993; Swain & Jones, 1995). Despite these studies, the use of GAS in ASPP is not customary, although it has considerable intuitive appeal.

Summary and a Model

In the UK, ASPP is principally concerned with providing a quality service to the athlete with the aim of improving performance, psychological skills, athlete well-being, and the quality of the sport experience. We argue that the purpose of evaluating practice is to document effectiveness and facilitate improvement, and an appropriate evaluation model must fulfill these functional criteria as well as

Table 2 A Summary of the Questions and Answers Addressed in Developing a Model for the Evaluation of ASPP

Question	Answer
Why?	To document effectiveness and facilitate improvement
How?	Case study approach with multiple dependent variables
Who?	Internally by the practitioners
What?	Four broad effectiveness indicators: performance, athlete responses, psychological skills, well-being, and quality of support
When?	Assess these indicators pre, during, and postintervention. Use the chain of events model to guide.
Criteria of effectiveness	Establish criteria for feedback methods and use goal attainment scaling to define effectiveness for individuals.

accommodate the demands of a practice setting. Table 2 summarizes the proposed solutions to the questions posed throughout this paper to develop an appropriate model for the evaluation of ASPP. This model is illustrated in Figure 2, which incorporates the key issues discussed and adapts and draws upon Thomas's (1990) model to develop an approach to evaluation that fits with the performance enhancement process.

As is evident from Figure 2, evaluation is deemed inappropriate in Phases 1 and 2 of the model. Throughout the rest of the performance enhancement process, the four broad indicators identified could be used by the practitioner to collect evaluative information to document effectiveness and facilitate improvement. In Phase 3 of the process, baseline assessment data could be collected on the athlete's characteristics and used to identify the goals of the support in Phase 4. These goals could be used within the GAS approach to identify the appropriate time to evaluate and predetermine the definition of effectiveness. Phase 5 in this model includes both Thomas's PST and implementation phases. Throughout this lengthy phase, evaluation could be undertaken, first, to evaluate the athletes' reactions to the quality of the service through the social validity and consultant effectiveness feedback mechanisms. Second, changes in knowledge, attitude, psychological skills, and well-being could be monitored. Third, changes in behavior (e.g., adoption of and adherence to psychological skills training) and performance changes could be evaluated. Each indicator may be assessed more than once throughout this phase. In Thomas's model, Phase 6 was named evaluation but in this new model, evaluation is not one distinct phase but is integrated within the performance enhancement process. In this revised model, Phase 6 is labeled End of Support and should involve reassessment of each of the effectiveness indicators in order to determine overall effectiveness. Finally, the revised model includes an additional Phase 7 that involves a follow-up evaluation of each of the indicators to determine the

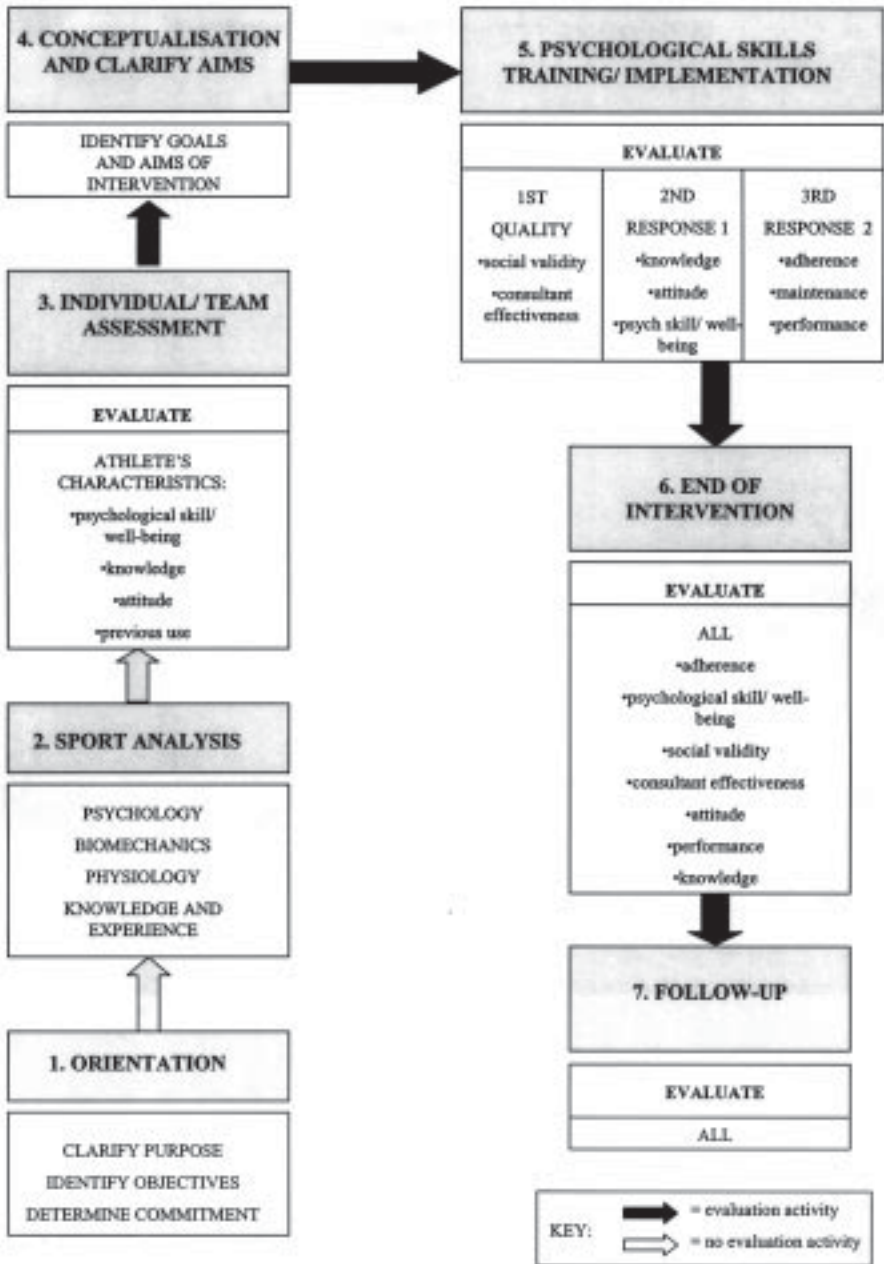


Figure 2 — A model for the evaluation of applied sport psychology practice integrated into and adapted from Thomas's (1990) model of performance enhancement.

effectiveness of the intervention over time. Although it is not highlighted on the actual model, practitioners should also integrate reflective practice into their work so that ongoing self-evaluation is facilitated.

We propose that this evaluation model will help practitioners collect pertinent feedback in order to identify areas for improvement and provide documented evidence of their effectiveness. Such an approach to evaluation could be accommodated within the demands of practice and would enable sport psychologists to increase their accountability and strive for professional effectiveness.

Future Research

Further research is necessary to develop reliable and credible measures to assess each of the effectiveness indicators. Additional research will be necessary to monitor the adoption of the model into practice in order to assess its appropriateness for a practice setting and determine whether it provides useful information to document effectiveness and facilitate improvement. Further refinements of the model will increase its value and enable practitioners to address the current issues of accountability in applied sport psychology with increasing confidence.

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