Peak Performance in Sport: Identifying Ideal Performance States and Developing Athletes’ Psychological Skills

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Can psychologists help performers in sport, business, and the performing arts achieve peak performances more often and with greater consistency? Sport psychologists have taken the lead in researching peak performance in an attempt to answer this question. This article focuses on optimal experiences in sport and ways in which the author works with athletes to help them achieve peak performances. Peak performance in sport is overviewed, the application of two models related to the preparation for peak performance in sport are discussed, and applied sport psychology experiential knowledge is shared. Implications for practice for psychologists considering work in this area are also considered.

Keywords: peak performance, ideal performance state, psychological skills, sport

The foundation of every peak performer’s training is contained in a single word: program. I would like to emblazon this word on a billboard in letters nine feet tall to emphasize this point. Without the structure provided by a clear, step-by-step training program, the athlete can waste precious hours, or even years, seeking a path to excellence down cul-de-sacs where little or nothing is accomplished. (Garfield & Bennett, 1984, p. 29)

This quote captures the essence of Charles Garfield’s mental training book, Peak Performance. Even 20 years ago, the available research suggested that mental training programs were vital to sport performance. This book, given to me as a gift from my mother, served as a resource during my high school basketball and baseball playing days. It was my introduction to the concept of optimal performance in sport, and the book proved to be quite helpful to me as an athlete. Even more, I found the concept of peak performance intriguing, and it has formed the foundation of my philosophical approach to doing sport psychology and ultimately shaped the very nature of my work with athletes in my chosen career.

I am not alone. Curiosity about and interest in optimal performance has grown markedly among practitioners, performers, and the public over the past 25 years. The field of sport psychology has been at the forefront of the study and application of peak performance principles and practices. In addition, interest in enhancing peak performance has spread to other performance domains (e.g., business, the performing arts) as well.

The goal for many sport psychology practitioners is to help athletes achieve at optimal levels and to do so more consistently. Over the years, a number of terms have been used to classify optimal experiences or positive states of consciousness in sport. Such labels have included peak experience (e.g., Ravizza, 1977), flow (e.g., Jackson & Csikszentmihalyi, 1999), and peak performance (e.g., Privette, 1981). Unfortunately, there is considerable overlap in the literature regarding the definitions and the manner in which these positive states have been examined. As a result, the specific aspect of optimal experiences in sport that is being addressed is not clear at times, leading to confusion regarding the relationship between positive states and performance in sport. These terms are clarified for the reader in the information to follow. (For a more detailed review, see Kimiecik & Jackson, 2002.)

Peak experience in sport has been defined as intense joy or a moment of highest happiness. This type of optimal experience in sport most is often associated with positive emotions closely aligned with fulfillment, significance, and spirituality (Privette & Bundrick, 1991). Many sports enthusiasts recently witnessed an excellent example of this positive state when the Boston Red Sox Major League Baseball Club (and their fans) celebrated the final out of the 2004 World Series, ending more than 85 years of “misery” of not winning a championship. Flow in sport is believed to be an intrinsically rewarding experience that occurs when athletes perceive a balance between the challenges associated with a situation and their capabilities to meet these demands (Csikszentmihalyi, 1990). It is conceptualized as a very positive psychological state related to an above average subjective experience. Additional dimensions of the flow state include a merging of action and awareness, clear goals and feedback, total concentration on the task at hand, a sense of control, a loss of self-consciousness, time transformation, and an autotelic nature (Kimiecik & Jackson, 2002).

On the other hand, peak performance has been described as representing the “superior use of human potential” (Privette, 1981, p. 51) and has been defined as “an episode of superior functioning” (Privette, 1983, p. 1361). Kimiecik and Jackson (2002) depicted

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peak performance in sport as a “release of latent powers to perform optimally within a specific competition” (p. 503). During peak performances, athletes are typically performing above their usual levels. They produce “personal bests” and achieve outstanding accomplishments (Jackson & Roberts, 1992; Privette, 1982). Thus, whereas peak experience and flow generally refer to moments or periods of ecstasy and internal enjoyment respectively, peak performance focuses more on the athletes’ level of functioning and their performance outcomes. Because a high level of functioning and the achievement of desired outcomes are tied closely to the goals of most elite-level performers, in this article, the construct of peak performance will be used as the backdrop for discussing optimal experiences in sport.

The purpose of this article is fourfold. First, an overview of peak performance and the psychological characteristics and skills associated with peak performance in sport are summarized. Second, two applied models related to peak performance in sport are described. Third, the role of increasing athletes’ awareness of their ideal performance states and the importance of following a developmental approach when enhancing psychological skills in athletes is highlighted through the use of two examples. Finally, implications for practitioners who have applied interests in the area of peak performance in sport are shared.

Psychological Characteristics, Skills, and Peak Performance

Psychological Profile of Peak Performance

Even the most casual observer of sporting contests will routinely hear references by athletes, coaches, and sport commentators regarding the importance of psychological factors in determining athletic performance. Despite such a commonly held belief by those within the sporting world, it seems appropriate to ask, “Is there truly an ideal mind/body state related to peak performance in sport?” Attempting to answer this question, Krane and Williams (2006) recently reviewed research that (a) assessed athletes’ subjective experiences during peak performances (e.g., Privette & Bundrick, 1997; Ravizza, 1977; Robazza, Bortoli, & Hanin, 2004), (b) compared psychological characteristics of successful and less successful athletes (e.g., Gould, Guinan, Greenleaf, Medbury, & Peterson, 1999; Mahoney & Avener, 1977; Robazza & Bortoli, 2003), and (c) surveyed top sport people (e.g., coaches, scouts) about what it takes to achieve at a high level (e.g., Gould, Greenleaf, Guinan, & Chung, 2002; Orlick, 1980). Based on these studies, Krane and Williams concluded that a certain psychological profile appears to be correlated with peak performance for most athletes. More specifically, this ideal mind/body state consists of the following: (a) feelings of high self-confidence and expectations of success, (b) being energized yet relaxed, (c) feeling in control, (d) being totally concentrated, (e) having a keen focus on the present task, (f) having positive attitudes and thoughts about performance, and (g) being strongly determined and committed. Conversely, the mental state typically associated with poorer performances in sport seems to be marked by feelings of self-doubt, lacking concentration, being distracted, being overly focused on the competition outcome or score, and feeling overly or under-aroused. While acknowledging that this ideal mind/body state is highly idiosyncratic, Krane and Williams concluded that for most athletes, the presence of the right mental and emotional state just described is associated with them performing to their potential.

Psychological Skills and Peak Performance

Assuming for a moment that athletes will perform best when they achieve an ideal mind/body state, the following question can be raised, “Can athletes learn how to create their ideal performance state that will lead to a peak performance?” Most researchers and practitioners would agree that this ideal performance state is not a simple, one-dimensional state that is easily obtained (e.g., Hardy, Jones, & Gould, 1996; Loehr, 1984). In fact, much of the sport psychology research over the past 35 years has examined the cognitive and affective processes related to athletic performance, attempting to better understand the nature of successful performance in sport and explain these complex relationships. In an effort to identify a common set of psychological skills related to peak performance, Krane and Williams (2006) also reviewed the research that focused on the mental preparation strategies used by successful athletes (e.g., Durand-Bush, Salmela, & Green-Demers, 2001; Gould, Eklund, & Jackson, 1992; Greenleaf, Gould, & Diefenbach, 2001). The reviewers concluded that a set of cognitive and behavioral skills and strategies is correlated with obtaining peak performances, including (a) goal setting, (b) imagery, (c) competition and refocusing plans, (d) well-learned and automatic coping skills, (e) thought control strategies, (f) arousal management techniques, (g) facilitative interpretations of anxiety, and (h) attention control and refocusing skills. Krane and Williams further argued that athletes can learn these psychological skills and strategies through education and practice to enhance productive mind/body states and control unproductive mental states, resulting in a greater likelihood that they will perform at their best.

Effectiveness of Psychological Interventions With Athletes

Attempts to uncover a link between an ideal mind/body state and peak performance and the psychological skills and strategies related to peak performance have not gone on without their fair share of criticisms (e.g., Dishman, 1983; Landers, 1994; Morgan, 1997). Morgan (1997) has been particularly critical, arguing that “most of the interventions in applied sport psychology are based upon unverified hypotheses and unsubstantiated pedagogical principles, rather than on scientific evidence” (pp. 5). More specifically, Morgan stated that a very limited number of applied sport psychology experimental studies exist, pointed to a lack of external validity, inadequate experimental designs, and behavioral artifacts in the research, and cautioned practitioners not to perform interventions in the absence of confirming, supportive research. Three reviews (Greenspan & Feltz, 1989; Martin, Vause, & Schwartzman, 2005; Meyers, Whelan, & Murphy, 1996), however, have painted a more positive view regarding the efficacy of applied sport psychology interventions. In addition to acknowledging the shortcomings in applied sport psychology research identified by Morgan and others, collectively these reviews have demonstrated that cognitive–behavioral interventions are effective in regulating athletes’ mental and emotional states and enhancing athletic performance. It also is clear from these reviews that an absolute, definitive statement regarding the efficacy of psychological interventions in sport cannot be made at this time, which places sport psychology practitioners in the unenviable position of having to apply a develop-
ing yet incomplete knowledge base when providing services to athletes and teams. What this means for practitioners and how they can negotiate the current empirical landscape of the field is offered in the final section of this article.

Psychological Preparation for Peak Performance in Sport

In part to aid sport psychology practitioners in the application of the existing knowledge base to the delivery of psychological services to athletes, a pyramid model of athletic excellence has been proposed (Gould & Damarjian, 1998; Hardy et al., 1996). The utility of the model for practitioners lies within its ability to present a unifying framework within which to understand the myriad of factors and variables that impact athletic performance. This in turn serves to guide the implementation of interventions.

This unifying model of psychological preparation for peak performance is grounded in a couple of assumptions (Hardy et al., 1996). First, elite athletes are multidimensional and complex beings, implying that a number of psychological, physical, technical, and tactical factors interact with one another to determine an athlete’s performance. Second, elite athletes do not compete in a vacuum; that is, a host of environmental and contextual variables will also either facilitate or inhibit athletes’ attempts to achieve at their best.

Based on their comprehensive examination of literature, Hardy et al. (1996) identified a framework consisting of five components to help practitioners better understand the role that psychological factors play in achieving peak performances (see Figure 1). These components are: (a) fundamental foundational attributes, (b) psychological skills and strategies, (c) adversity coping skills and strategies, (d) the ideal performance state, and (e) the environment. The components of the model are described briefly in the information to follow. (For a more detailed discussion, see Gould & Damarjian, 1998, and Hardy et al., 1996.)

At the top of the pyramid model is the ideal performance state (see Figure 1), which is akin to the ideal mind/body state identified by Krane and Williams (2006). Given the identified link in the literature between the ideal performance state and achieving peak performances, I have found it most useful to start my work with athletes by assessing their peak performance state and discussing the idiosyncratic nature of their ideal state with them. According to Hardy et al. (1996), this component of the model implies that the right mixture of cognitions (e.g., self-efficacy), emotions (e.g., state anxiety), and physiological parameters (e.g., arousal) is needed for athletes to achieve peak performances. In the following two sections, I discuss further how I help athletes to identify their ideal performance states to facilitate achieving peak performances.

The next two components of the model, appearing on the right and left sides of the pyramid, highlight the need for athletes to possess psychological and adversity-copying strategies and skills (see Figure 1) to actively increase the probability of attaining and maintaining an ideal mind/body state for performance (Hardy et al., 1996). As discussed in a previous section, a number of psychological skills and strategies have been found to be correlated to athletes’ achievement of an optimal mental and emotional state for peak performance. According to Hardy et al. (1996), the consistent use of these skills and strategies, such as goal setting, imagery, and preperformance routines, allows athletes to prepare themselves mentally to perform, putting themselves in a psychological position to be successful. Although adversity-copying skills and strategies (e.g., emotion-focused coping, realistic stress appraisal, social support) have not received the same amount of attention in the sport psychology literature, Hardy et al. argued that elite athletes need means by which to cope with all types of stressors, such as injury, travel demands, and expectations of others, that may prevent or interrupt an ideal performance state. There are a myriad of ways in which sport psychology practitioners attempt to develop psychological and coping skills in athletes. In the sections that follow, I offer a glimpse and insight into my approach at doing so.

The fundamental foundational attributes component of the model includes the personality traits, motivational orientations, and philosophical beliefs of the athlete (see Figure 1). For example, specific attributes that have been found to be related to performance in the sport psychology literature include trait sport confidence (Vealey, 1986), competitive trait anxiety (Martens, Vealey, & Burton, 1990), attentional style (Nideffer, 1976), and task-versus-ego goal orientations (Duda, 2001). According to Hardy et al. (1996), practitioners need to pay special attention to athletes’ various personality and dispositional attributes, as they have both a direct and indirect influence on the extent to which athletes achieve their ideal mind/body state for performance. One might consider this component to include those attributes that, although not easily changed, are what athletes “bring to the table” when they engage in performance enhancement work. An understanding of these individual difference variables often provides a possible explanation for why an athlete may be less confident, more anxious, improperly focused, and so forth compared to another athlete. Armed with this knowledge, I am in a better position to apply sport psychology interventions that meet the individual needs of the athletes to whom I am providing services.

Lastly, enveloping the pyramid is a set of physical, social, organizational, and psychological factors (see Figure 1) that can either increase or decrease the chances that athletes will attain and maintain their ideal performance states (Hardy et al., 1996). When helping athletes perform to their peak potential, these factors must be monitored or even altered in some cases. To elaborate on these

![Figure 1. From Understanding Psychological Preparation for Sport: Theory and Practice of Peak Performance (p. 240), by L. Hardy, G. Jones, and D. Gould. Copyright 1996 by John Wiley & Sons Limited. Modified and reproduced with permission.](image-url)
points, the physical environment of the competition site can influence the achievement of an ideal performance state for some athletes. I once worked with a women’s college basketball team whose players became more anxious and were unable to stay focused on the task at hand due to the somewhat quirky home facility of a particular opponent (i.e., the basketball court was placed on a stage with a 10-foot drop-off just beyond the sidelines). Also, the finding that some athletes draw their confidence from perceiving social support from significant others or believing in their coach’s leadership and decision-making skills highlights the role that social factors can play in ideal performance states (Vealey, Hayashi, Garner-Holman, & Giacobbi, 1998). In addition, Woodman and Hardy (2001) identified a number of organizational factors (e.g., unfairness in team selection, lack of financial support) that some athletes perceive to be major sources of stress and likely interfere with their ability to achieve an ideal performance state in certain competitive situations. Finally, according to Hardy et al., athletes’ performance accomplishments (e.g., winning vs. losing streak), the quality of their training (e.g., high vs. low), and the motivational climate (e.g., task vs. ego-oriented) in which they train and compete are among the contributors to the psychological environment that can lead to either an optimal or dysfunctional performance state.

Ideal Performance State

When attempting to enhance the performance of athletes, sport psychology practitioners often assume the role of assisting athletes in their mental preparation for competition. A central task for many athletes in their mental preparation is the achievement of a precompetition ideal performance state. Many practitioners help athletes to identify the individual and task-specific mental and emotional state most conducive for them to achieve at their best in their competitive situation and do so in many different ways in this regard. I have found Hanin’s (1997, 2000a) revised Individual Zones of Optimal Functioning (IZOF) model and his accompanying IZOF-based emotion-profiling assessment procedure (Hanin, 2000b, 2000c) to be the most helpful to me in this regard.

The IZOF Model

The IZOF model was developed by Hanin (1978, 1986, 1989, 1997, 2000a) as an alternative to nomothetic approaches to understanding the relationship between subjective experiences and athletic performance. Simply stated, the IZOF model proposes that each individual athlete experiences a unique range of positive (i.e., pleasant) and negative (i.e., unpleasant) psychobiological states that either facilitate or diminish performance. Initially, the IZOF model (Hanin, 1978, 1986, 1989) was applied only to the study of precompetitive anxiety and its effect on performance. Research has led to the conclusion that successful athletic performance happens when precompetitive anxiety is near one’s personal optimal range, whether that is relatively low, moderate, or high. Conversely, when athletes’ precompetitive anxiety is either higher or lower than their IZOF, their performance typically suffers. (For reviews, see Gould & Tuffey, 1996; Hanin, 1995; Jokela & Hanin, 1999; Raglin & Hanin, 2000). Criticisms (Gould & Tuffey, 1996; Jones, 1995) levied against the IZOF model have included (a) researchers’ overreliance on general measures of anxiety as opposed to sport-specific measures to test the model, (b) the failure of the model to adequately specify the factors that determine an athlete’s IZOF, and (c) the inability of the model to sufficiently explain why anxiety may facilitate or debilitate performance.

Addressing some of these criticisms, Hanin (1997, 2000a) more recently extended the IZOF model beyond the single emotional state of anxiety to include an analysis of the optimal and dysfunctional patterns of positive and negative emotions affecting sport performance. According to Hanin (2000a), athletes will experience a unique, subjective set of emotions (e.g., confidence, frustration, fun) with varying levels of intensity that is associated with their more successful performances. Thus, an optimal intensity of these emotions will allow athletes to achieve peak performances. Hanin (2000a) also postulated that each emotion serves two primary functions: mobilizing and organizing energy. Therefore, emotions can either aid or prevent athletes from sufficiently generating and efficiently using energy to accomplish their sport-related tasks within a given competition.

Given the newness of the expanded IZOF model, research designed to test the various components of the model is relatively scarce. Preliminary evidence from studies that have tested the in-out of zone principle in predicting sport performance across different sports, age groups, sport experience, and competitive levels has indicated that idiosyncratic positive and negative emotions appear to be related to more and less successful performances, however (e.g., Hanin & Syrjä, 1995; Robazza, Bortoli, & Hanin, 2004; Robazza, Bortoli, & Nougier, 2002; Syrjä, Hanin, & Tarvonen, 1995).

IZOF-Based Emotion Profiling

To assist sport psychology practitioners in applying IZOF-based interventions and self-regulation strategies with athletes, Hanin (2000b, 2000c) developed and outlined an assessment procedure for identifying patterns of optimal and dysfunctional emotions related to sport performance. Referred to as IZOF-based emotion profiling, the goal of this assessment procedure is to help athletes identify (a) their individually relevant emotions, (b) the set of emotions that is specific to their best and worst performances, and (c) the level of intensity of these specific emotions that they perceive to be either facilitative or debilitative to their performance. The practitioner helps athletes generate 16–20 individually relevant emotions that they select from a list of positive and negative emotions and associate with their best and worst performances. The athletes then indicate a level of intensity for each emotion selected by using a Likert scale (ranging from nothing at all to maximal possible) to indicate the magnitude of the emotion they felt related to their best or worst performances. Lastly, the practitioner creates a visual depiction of the profile to increase the athletes’ awareness of their optimal and dysfunctional emotional patterns to facilitate the interpretation of their profile (see Figures 2 and 4 for sample profiles). The resulting emotion profile typically consists of 8–10 positive and negative emotions associated with an athlete’s best performances and 8–10 positive and negative emotions related to an athlete’s worst performances. Hanin (2000b) also suggested that optimal ranges can be estimated roughly by adding and subtracting two points from the reported intensity level for each emotion, establishing an optimal zone of emotions related to successful performance (see Figures 3 and 5).
for sample zones). For a more complete description of this assessment procedure, see Hanin (2000b, 2000c).

Effectiveness of IZOF-Based Interventions

Three intervention studies (Annesi, 1998; Cohen, Tenenbaum, & English, in press; Robazza, Pellizzari, & Hanin, 2004) have provided some initial evidence for the efficacy of applying IZOF-based principles to guide emotion regulation in sport. Annesi (1998) tested the effectiveness of an anxiety regulation system in which two national-level junior tennis players (one male, one female) underwent psychological skills training (e.g., cognitive restructuring, deep breathing, energizing verbal cues) designed to help them enter their previously identified IZOFs when either

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Figure 2. An initial IZOF-based emotion profile depicting the intensity of emotions prior to best and worst performances for “Allison,” an elite female athlete.

Figure 3. An initial IZOF-based emotion profile depicting the optimal range of intensity of emotions for “Allison,” an elite female athlete.
above or below their optimal zones before a competition. Results showed that subjective average ratings of performance increased by 10% for one athlete and 20% for the other athlete over baseline following treatment. In addition, Cohen et al. (in press) reported a multiple case study in which a psychological skills training intervention (e.g., attentional control, activation, self-talk) was implemented with two female college-level golfers to directly and indirectly affect emotional self-regulation. Results demonstrated that the intervention was effective in helping the athletes achieve optimal emotional states and improved objective performance (e.g., lower scores, higher percentage of greens in regulation) over baseline measures. Finally, Robazza et al., (2004) concluded that their individualized emotion self-regulation assessment and intervention program was effective in modifying the precompetition psychobiological states toward patterns more similar to best performance in the predicted directions for five out of six experimental participants (national-level, male Italian athletes). Self-reported performance scores also revealed improvement as a result of the intervention. Similar modification and performance results were not found with the two control participants.

The IZOF-based emotion-profiling assessment procedure has been very useful to me in helping to increase athletes’ awareness of the mental and emotional characteristics of their ideal performance state that is specific to them and their competitive situation. Once athletes are aware of the nuances of their ideal performance state, I have discovered that I can better assist athletes in identifying and initiating psychological and adversity-coping strategies to best prepare for a peak performance. To illustrate how IZOF-based emotion profiling can facilitate greater awareness of athletes’ ideal performance states and implementation of psychological preparation strategies, my work with an elite-level athlete, “Allison,” over three competition seasons is presented in the next section.

The Case of “Allison”

When I started providing services to Allison, she was a 27-year-old White female, ranked in the top 25 internationally and a multiple U.S. national champion in her Olympic winter sport. She sought help primarily in relation to her inability to parlay her success on the national level to the international level (i.e., no top 3 international-level performances over the past 2 years). In addition, she reported that she was beginning to feel some pressure related to her preparation for the upcoming Olympic Winter Games, which were approximately 16 months away.

First Competition Season

In our first formal meeting during the preseason, an intake interview was conducted that focused on identifying Allison’s mental training wants and needs and her current use of psychological skills and strategies in practice and competition. In addition, historical and background information was collected, along with details related to her athletic and social history. It was apparent from the initial assessment that Allison generally was unaware of her ideal mental and emotional preperformance state, and she even admitted to utilizing rather simple behavioral strategies (e.g., take a couple of deep breaths) to achieve a somewhat one-dimensional preperformance state (e.g., just be relaxed).

During our second meeting, I helped Allison to create an IZOF-based emotion profile to identify her ideal preperformance state (see Figures 2 and 3). Allison discovered that her best-ever performances were marked by a number of positive emotions (e.g., energetic, motivated, cheerful), each with a certain magnitude of intensity. She was also surprised to learn that she felt a certain amount of several negative emotions just prior to her best-ever performances, including feeling somewhat on edge, irritated, and anxious. The emotion-profiling assessment also increased her awareness of a set of both positive (e.g., sure, overjoyed) and negative (e.g., discouraged, uncertain) emotions that were associated with her worst-ever performances.

A third meeting identified the variables and behavioral strategies Allison employed that led to her feeling her various emotions before her best and worst performances. Common themes across her best performances included a good physical warm-up, being properly rested, performing well in recent training sessions and competitions, focusing on what she had control over, and competing for internal reasons (e.g., enjoyment, satisfaction). As for her worst-ever performances, common themes included focusing on things she had no control over (e.g., weather), lack of recent success, feeling somewhat burned out, and competing for external reasons (e.g., results).

During the final preseason meeting, I helped Allison to develop behavioral plans (e.g., choose to focus on what she needed to do to win, seek resolution to all of her weather-related concerns) to proactively carry out the themes she identified to be related to her best performances. In addition, we came up with a number of cognitive and behavioral strategies to implement during her preperformance preparation routines to produce the desired level of each of her optimal emotions. More specifically, we identified a host of precompetition plans by using if-then statements (e.g., “If I feel insecure, I will visualize a past successful performance”) and self-statements (e.g., “To feel quiet, I will focus on my competition plan and act cheerfully toward my teammates”). Lastly, I encouraged Allison to complete an emotion profile after selected competitions as part of her postcompetition evaluation routine, providing her the opportunity to recall her preperformance emotional state and make necessary adjustments in her precompetition routines for upcoming competitions.

Five months elapsed between the final preseason meeting and the end of Allison’s competitive season. We met briefly (i.e., 15–30 minutes) over this span for a total of five times at training camps and competitions. During these meetings, I primarily followed up with Allison regarding the effectiveness of her precompetition strategies by identifying and discussing the variables that were leading to optimal or dysfunctional emotions prior to and during her performances. In general, she indicated that she was pleased with the usefulness of her chosen strategies and stated that completing an emotion profile after her competitions helped her to remain aware of her ideal performance state. During an end-of-the-season evaluation meeting, Allison reported that she was very happy with her performance over the season, adding that she performed at a peak level for a longer amount of time than was typical for her. Allison achieved her goals for that season, including a top-10 performance at the World Championships, three top-10 international-level performances, and a first place and three top-3 national-level performances.
Second Competition Season

Prior to the start of the second season, a decision was made at Allison’s request to modify the nature of my consultation work with her to focus more on goal setting and distraction control strategies related to Olympic qualification and the Olympic Winter Games, which now were just 8 months away. I helped her set specific outcome- and sport-specific technical/tactical goals for Olympic qualifying, the Olympics, and the post-Olympic season. In addition, we collaborated on the creation of an imagery script set to music that was designed to help Allison be prepared for the various distractions she anticipated encountering at the Olympics. Unfortunately for Allison, circumstances outside of her control significantly impacted her ability to train and compete in the Olympic qualifying events, and she failed to earn a spot on the Olympic team as a result. Thus, most of my work with Allison over the course of this season consisted of cognitive restructuring and the provision of emotional support related to her struggles and failure to make it to the Olympics. Despite her early season struggles, Allison finished the year strong with two top-10 international-level performances and three first place national-level performances.

Third Competition Season

The beginning of the third season saw a return to the emotion-profiling work initiated during my first season of consultation with Allison. Believing that her understanding of her ideal emotional state had become more sophisticated, Allison expressed her desire to create a new emotion profile (see Figures 4 and 5) based on her performances over the past 2 years. After creating, interpreting, and discussing her profile, we decided to focus on identifying preparation strategies that would elevate her negative optimal emotions (i.e., fierce, scared, uneasy, and irritated), as this set of emotions was codetermined to be the key to her success over the past 2 years. This time around, I suggested the use of metaphors with associated images that Allison could include in her pre-performance preparation routines to produce these negative yet optimal emotions. Although more prominently used in psychotherapy (Barker, 1985), the use of metaphors in sport to enhance traditional competition preparation strategies and emotional control prior to and during performances has recently received some support in the sport psychology literature (Hanin & Stambulova, 2002). Over the course of two meetings, Allison eventually selected “eagle vision” as her metaphor/image associated with feeling fierce, “the fifth gear” to create feelings of being scared and uneasy, and “No. 30” to reflect her irritation about not being ranked higher.

Over the next 5 months, Allison and I met a total of 6 times at training camps and competitions. I mainly followed up with Allison regarding her preparation routines and their effectiveness in regulating her emotional state before competition. In general, she reported that generating energy from her negative feeling states and affiliated metaphors/images worked very well for her, attributing her ability to do so as being a key factor related to a top-3 international-level performance. Interestingly, one particular meeting centered on her self-reported increased feelings of fatigue and difficulties maintaining a high level of these negative optimal emotions throughout an entire competition. We discussed the possibility of her focusing on optimizing her positive emotions (e.g., fun, pleased, inspired) at strategic points during a competition to counteract the energy-draining effect of her negative emotions. After competing the following day, she indicated that she was able to maintain a high energy level over the course of the competition as a result of better regulating both her negative and positive optimal emotions, adding that doing so helped her to a

Figure 4. A modified ZOF-based emotion profile depicting the intensity of emotions prior to more recent best and worst performances for “Allison,” an elite female athlete.
first place performance. This season turned out to be one of her best competitive seasons with a top-10 performance at the World Championships, one top-3 and four top-10 international performances, and three first place and one top-3 national-level performances.

In sum, the IZOF-based emotion-profiling procedure helped Allison to become more aware of an ideal performance state that was specific to her and her sport-related tasks, setting the stage for her to use psychological skills and strategies to attain and maintain this mental and emotional state. Allison’s self-reported positive reactions to the usefulness of the emotion-profiling technique and the effectiveness of the selected interventions in improving her performance provided some social validation regarding the effectiveness of my work with her in this area. It is noted that other variables may have explained her improved performance over this time as well, including significant gains in her physical strength and conditioning related to her off-season and in-season training routines and maturation as an experienced, elite-level athlete.

Developing Psychological Skills in Sport Teams

As discussed earlier, Hardy et al. (1996) indicated that it is critically important for athletes to become proficient in their use of psychological and adversity-coping skills if they desire to achieve peak performances more consistently. A number of sport psychology professionals (e.g., Ravizza, 2006; Weinberg & Williams, 2006) conceptualize psychological skill development along the same lines as physical skill development. Psychological skills such as positive thinking and imagery, it is suggested, are similar to physical skills such as running and throwing, in that the capacity to successfully execute each set of skills is determined by both an athlete’s genetics and learning experiences.

When working with teams, I often assume the primary role of helping coaches to develop psychological and coping skills in their athletes. I adopt a systematic approach that (a) educates the team about the required skills, (b) promotes the acquisition of the skills via a structured training program, and (c) integrates the skills into the team’s practices and competitions until the skills become habitual. For many sport psychology practitioners, myself included, this is a difficult task, as adequate descriptions of these processes and effectiveness research in the development of athletes’ psychological skills are somewhat lacking in the literature.

The Case of the “Ravens”

To illustrate how a sport psychology practitioner attempts to develop psychological skills in sport teams, my recent consultation with a local high school boys’ basketball team, the “Ravens,” is presented. The Ravens’ head coach brought me in to help increase his team’s level of mental toughness. The concept of mental toughness has been defined a number of different ways in the sport psychology literature and popular press, resulting in a confusing and less-than-clear grasp of the term. Recently, Jones, Hanton, and Connaughton (2002) attempted to add conceptual clarity and consensus to the understanding of this concept through a series of interviews and focus group work with elite-level athletes. The athletes in their study defined mental toughness as “having the natural or developed psychological edge” that enables you to “generally, cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer” and “specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure” (Jones et al., 2002, p. 213). In addition, the participants in the Jones et al. study identified a set of 12
mental toughness attributes condensed into the following categories: self-belief, desire/motivation, handling competition-related pressure (external) and anxiety (internal), performance-related focus, lifestyle-related focus, and dealing with physical and emotional pain/hardship.

Based on the combination of my understanding of the theoretical/empirical database and my experiences with athletes over the years, I subsequently identified specific cognitive and behavioral strategies designed to facilitate the development of each of the 12 mental toughness attributes (Harmison, 2005). The head coach and I codesigned a systematic program to educate the Ravens’ players about the various aspects of mental toughness identified by Jones et al. (2002). The program focused mainly on providing opportunities for the athletes to acquire the necessary psychological skills and integrating the application of these skills into practices and competitions. Throughout the season, we conferred and decided on a specific mental toughness attribute to focus on for a given week to address a need that emerged based on the team’s recent performances in practices and games.

To illustrate with a specific example, the head coach selected 1 of the 12 mental toughness attributes, the ability to regain mental control following unexpected, uncontrollable events, as being a key to his team’s success. Before the first practice of that particular week, I presented a 20-minute talk that summarized what I identified to be most important practical information regarding this mental toughness attribute (i.e., mental control). Pulling material from several different sources, I discussed the difference between the circles of concern and control (Covey, 1989), controlling the “controllables” (Ravizza & Hanson, 1995) and being physically and mentally balanced (Nideffer & Sagal, 2006). Next, I taught the athletes the skill of centering (Nideffer & Sagal, 2006) by showing them how to use the skill and demonstrating a performance routine (i.e., a deep breath paired with two individualized centering cue words) that would help them incorporate the skill during their practices and games.

Before, during, and after practices and games over that particular week, the head coach reinforced the educational concepts just mentioned, by including the anchoring terms of “mental control,” “circle of control,” and “control the controllables” in his interactions with the team and individual players. In addition, the athletes’ use of their individualized centering routine was integrated into several preexisting practice drills and game situations. For example, at the end of one particular shooting drill, the athletes would assume the triple-threat position (an offensive stance from which players can either pass, dribble, or shoot) and execute their centering technique when prompted by the coach’s blowing of his whistle. In addition, if during a drill or simulated play the head coach observed that a number of his players appeared to be overly frustrated regarding their play or focused on a past mistake as they transitioned to their defensive positions, he would blow his whistle and shout, “Stances! Stances!” This cue was used to prompt the players to execute their centering routines while they dropped down into their defensive stances. Lastly, during critical moments throughout games (e.g., following two successive offensive turnovers or a questionable ruling by a referee), the players on the court were instructed to use their centering routines to regain their focus and mental control. To help them in this regard, the team captains and/or a member of the coaching staff would shout, “Stances! Stances!” as a mental cue for the players to execute their routines. In the weeks that followed, the head coach continued to review the concepts of mental control in his talks with the team, incorporate the application of the centering routine into practice drills, and apply the cue-controlled technique during critical moments in competition.

Once again, self-reported feedback from the head coach and individual players provided social validation for the effectiveness of the procedures previously described, in enhancing this high school basketball team’s mental toughness. Because the efficacy of this specific approach was not tested in this case or previously in the literature, there are many more questions than answers regarding the empirical validity of this intervention protocol. Thus, there is an opportunity to validate this procedure and perhaps generalize the utility of this approach to other populations of athletes as well.

Implications for Practice

Given the criticisms and gaps in the empirical knowledge base of applied sport psychology (e.g., Morgan, 1997), how might a sport psychology practitioner adhere to relevant ethical principles while helping athletes achieve peak performances? Ideally, the practice of professional psychology (including sport psychology) would be strictly an applied scientific endeavor based on an established theoretical and empirical base. Stricker and Trierweiler (1995) argued that in reality, this is not the case in psychological practice, nor can it ever be realized. Given the complexity created by individual and contextual factors, practitioners will always be required to go beyond the established scientific knowledge base and their technical skill set to completely address the applied task at hand. Thus, they proposed the local clinical scientist model in which a practitioner is a critical thinker who applies research findings, general scholarship, and personal and professional experiences when understanding, hypothesizing, and intervening with a specific individual within a particular situation (Trierweiler & Stricker, 1998). This model of practice requires a practitioner to (a) be open and receptive to different approaches to examining a situation, (b) value empirical and local support for interventions with a healthy skepticism, (c) hold professional responsibility and knowledge in high regard but without arrogance, (d) be aware of personal biases that distort objective observations, (e) identify the ethical implications of interventions with individuals in specific contexts, and (f) recognize the need for collegial interaction and feedback with regard to one’s practice (Stricker & Trierweiler, 1995). If ever there was a profession that could benefit from the application of the local clinical scientist model, it would be the field of applied sport psychology.

To apply the local clinical scientist model specifically to helping athletes identify their ideal performance state and develop the necessary psychological skills and strategies to achieve peak performances, the following suggestions are offered. First, sport psychology practitioners would be wise to consider an array of information sources when trying to understand the role of an individual athlete’s ideal performance state in achieving a peak performance. These sources may include theoretical writings, empirical research, case studies, the practitioner’s colleagues and own experiences, cultural conceptions, and the athletes themselves (Trierweiler & Stricker, 1998). In the case of Allison, I relied primarily on theoretical writings, then research, and finally Allison’s perspective to better understand the intricacies of her ideal performance state.
Second, sport psychology practitioners are encouraged to turn first to evidence-based interventions when attempting to develop athletes’ psychological and adversity-copying skills to increase the chance of a peak performance. For example, I initially taught Allison to implement traditional arousal regulation strategies (e.g., deep breathing) when she felt physiologically overstimulated prior to a competition. In the absence of sufficient scientific knowledge, practitioners can rely on their critical thinking, unbiased observation skills, and an attitude of actively seeking solutions with the possibility that a better evidence-based, locally defined answer exists (Trieweler & Stricker, 1998). Some could correctly argue based on the empirical literature that my suggestion that Allison increase her feelings of being irritated, uneasy, and scared was risky if not counterindicated. The decision to do so, however, was based on my critical understanding of Allison and my willingness to seek a better solution specifically for her and her situation.

Finally, given the nature of the developing empirical base related to the effectiveness of psychological interventions in sport, it seems reasonable to assume that sport psychology practitioners will often need to rely on sources of information (e.g., theoretical writings, case studies) that have been deemed by some critics to be less than scientific. Thus, it is recommended that practitioners strive for an appropriate balance between stating the efficacy of a given intervention and informing athletes of the potential, undesirable outcomes (Morgan, 1997). In the case of the Ravens basketball team, I applied interventions to modify a recently operationalized definition of mental toughness, communicated realistic expectations related to the outcomes of the various interventions (e.g., improved feelings of control over performance vs. winning more games), and consistently sought feedback from the head coach and athletes regarding any undesirable effects of the selected interventions. In situations such as this one in which I have been able to strike a balance, the healthy skepticism that was developed in the athletes has eventually led to greater perceptions of my expertise and trustworthiness as a practitioner.

Conclusion

Based on the sport psychology literature and my own personal experience, it is my contention that sport performers can learn how to achieve peak performances more often and with greater consistency. To do so, athletes can benefit from becoming more aware of the ideal performance state that is specific to them and their situation and developing the necessary psychological and adversity-copying skills and strategies to achieve and maintain this mental and emotional state for peak performance. This requires a great deal of proficiency on the athletes’ part regarding their execution of mental skills and strategies such as relaxation, attentional control, and imagery. By designing ways for athletes to increase their awareness of their ideal performance states and systematically develop their psychological skills and strategies, sport psychology practitioners can play a vital role in helping them achieve to their potential. All things considered, doing so often is a very difficult task that requires knowledge and understanding, the ability to apply one’s trade, and the capacity to modify one’s approach to meet the demands of the specific athlete and situation. For many sport psychology practitioners, this very fact is the reason why we do what we do.

References


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