

Chapter 4

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Management of competitive stress in elite sport

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Introduction

One of the most studied and frequently cited areas within the field of applied sport psychology is that of competition stress and anxiety. This prominence is undoubtedly linked to the stressful nature of elite sport, and the demands associated with the competitive environments that surround the modern day performer. As a direct consequence, a core component within many athletes' competitive preparation programs includes some form of stress management focused on the achievement of an optimal pre-performance mental state.

This chapter, which contains six sections, attempts to explore these programs and provides an insight into treatment frameworks that underpin practical work with elite athletes. The opening section clarifies and places into context the key terms used within this area and outlines their importance for applied work. The second section provides an overview of the stressors (i.e., demands) that performers commonly encounter, and illustrates the types of anxiety responses athletes may experience following exposure to these demands. The third section summarizes contemporary thinking on how sport psychologists believe anxiety can affect sport performance, and also illustrates how practitioners may attempt to evaluate the athlete before

recommending an intervention strategy. The fourth section provides an overview of stress management interventions in elite sport that have been designed to *reduce* the intensity of anxiety symptoms that performers commonly encounter in stressful situations. Section five then details an approach to combating stress that focuses on programs that are designed to *restructure* the performers' interpretations of anxiety symptoms from negative to positive. The concluding section highlights these treatment approaches with two case study scenario.

Clarification and contextualization of key terms

The use of stress management within the area of competition stress and anxiety has often been hindered by lack of consistency and, at times, understanding of the central terms adopted within the literature. It is not intended to provide an in-depth debate on these issues as has occurred in some recent sport psychology texts; instead, certain terms are defined and contextualized to encourage a clearer understanding of how to manage athletes' responses in pressure situations: the primary aim of this chapter.

Contemporary thinking views stress as a dynamic relationship between athletes and their practice and competition environment. Specifically, performers appraise the demands of the situation and then attempt to cope with these demands. Inherent

within this approach is the perspective that performers will encounter many different demands that tax their resources and it is the athletes' perceived ability to cope with these that form the process of *stress*. If athletes feel that they cannot cope with the demands then they are then likely to experience different levels of competition *anxiety*.

The role of appraisal within the process of stress is central to the context of determining the most appropriate stress management intervention. Specifically, the *reduction* approach to stress management suggests that performers react to the demands with negative performance consequences. This point is emphasized by sprinter Kim Collins of St Kitts when talking about his background and approach to the blue ribbon 100-m event:

There are problems with coming from a small country... we've never had a sprinter at this level before so I'm doing something that has never been done before... I went to an all boy's school where if you showed fear you were in trouble, track and field is no different. If you come to the line showing fear and nerves everyone will pick on you, your self-esteem and confidence are gone. I just have to be confident and relax-relaxation is very important to me.

The content of this quote helps illustrate one of the treatment frameworks and supports one school of thought in relation to the negative influence that anxiety responses can have on sport performance. Specifically, when Collins talks about the importance of attaining a relaxed state to help him cope with pressure, his thinking is aligned with the *reduce* treatment framework (i.e., striving to lower the intensity levels of anxiety symptoms an athlete experiences). However, an alternative understanding of the stress process suggests that certain athletes possess the ability to respond to the demands of competitive performance and their anxiety symptoms in a positive way. The following quote from one of the most successful swimmers in Olympic history, Australia's Ian Thorpe, helps in this respect:

For me Sydney was a dream, as a kid that's all I ever wanted to do was swim an Olympic games.... And my ultimate dream was to win

an Olympic gold medal and I was able to achieve that in Sydney. I guess there was always a lot of attention on me, a lot of expectation on me to perform well and if you turn those into a positive thing it becomes support, whereas if you turn it into a negative thing it then becomes pressure.

Thorpe's sentiments help show the second treatment framework presented within this chapter that suggests experiencing anxiety symptoms does not always have a negative effect on performance. Specifically, when Thorpe talks about turning expectation and pressure into a positive way for performance, his thinking is aligned with the *restructuring* treatment approach adopted within contemporary stress management programs (i.e., striving to interpret anxiety symptoms in a positive way).

Competition stressors and athletes' responses

Several research studies in applied sport psychology have examined the different stressors, or demands, that performers may have to deal with in stressful situations. Here the literature suggests that aspects of competition (e.g., thinking about performance, the goals that may have been set, and perceived levels of physical and mental preparation), interpersonal relationships (e.g., expectations from teammates, coaches, family members), financial matters (e.g., funding issues, sponsors), traumatic experiences (e.g., the risk and consequence of injury), and the weather and environmental conditions can result in athletes having different anxiety responses.

An important distinction to make at this stage is the separation of anxiety into cognitive and somatic symptoms. So far, the term *anxiety* has been used in a global way to describe how performers respond to the demands within stressful situations. It is important to realize, however, that coaches and practitioners should distinguish between athletes' mental and perceived physical responses to the stressors they encounter. Specifically, cognitive anxiety responses are the thoughts athletes experience in stressful situations such as worries, negative expectations, and apprehensions

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about performance (i.e., athletes' mental response to stressors). However somatic responses are the athletes' perceptions of their physiological arousal state in stressful environments (i.e., athletes' perceived physical response to stressors). Symptoms categorized as somatic include muscular tension, butterflies in their stomach, increased heart rate, and perspiration. The following section helps to highlight why this distinction is important in the context of stress management interventions; specifically, the notion that within certain approaches these differing mental and physical symptoms require specific and individual psychological skill programs to be most effective. This feature applies for both the reduction and restructure frameworks. For example, within the reduction approach, a performer who experiences high physical anxieties would usually be provided with a somatic (i.e., physical) relaxation treatment, such as progressive muscle relaxation, in an attempt to align the treatment to the physical response. Within the restructure approach, performers interpreting their mental anxieties as negative for performance would often be provided with a cognitive (i.e., mental) treatment strategy, such as imagery or cognitive restructuring, in an attempt to match the treatment to the specific response of the athlete.

A final consideration that has a bearing for the practitioner when treating the effects of stress is the *activation* levels required to perform optimally. In this instance, *activation* refers to the appropriate mental and physical state that athletes need to be ready to perform. Perhaps the most effective way to illustrate this point is to consider the levels of activation required in two different tasks. For example, the desirable mental and physical state to demonstrate readiness to perform as an Olympic weight lifter is very different from the state of readiness needed to perform well as an Olympic target rifle shooter. For example, strength, power, and aggression are key determinants of performance within the gross muscular activity of weight-lifting, whereas composure, control, and calmness are key factors within the fine muscular control event of target-shooting. It is clear that the two appropriate activation states fall at different ends of a continuum and that practitioners should consider these issues before designing interventions.

The relationship between anxiety and sport performance

Many different explanations have been forwarded in the research literature that attempt to account for the relationship between anxiety and performance. One approach is that increases in competition anxiety, and particularly cognitive symptoms, always have a detrimental effect on performance. This is the underpinning premise for the *reduction* approach to managing stress. Other researchers have suggested that the relationship with performance should be determined at a more individual level and that athletes possess optimal levels or zones of anxiety within which their performance will be maximized. These assertions led to interventions being individually tailored where, at certain times, reduction would be called for if the performer was too anxious, but on other occasions the practitioner may consider increasing anxiety levels to perform an energizing function. A third perspective is based on the principle that high levels of anxiety may be interpreted in a positive way and actually benefit sport performance. This notion links closely to the underlying message within Thorpe's quote presented earlier, and is fundamental to the *restructuring* approach.

How to assess anxiety symptoms

Prior to practitioners providing any form of intervention to athletes, an accurate assessment of the performers' anxiety symptoms should take place. To do this, sport psychologists typically adopt a combined approach to see how mentally and physically anxious performers may be and whether they interpret the anxiety symptoms experienced as positive or negative toward performance. This assessment often uses a combination of validated psychometric questionnaires alongside interviewing procedures with the athletes in question and their coaches. Sport psychologists may also ask performers to record their anxiety symptoms in some form of diary and, finally, may observe their behavior in stressful situations. Sport psychologists then

collate and analyze this information and come to a conclusion about the intensity levels of mental and physical anxiety symptoms and whether these are interpreted in a positive or negative manner toward performance. This information then underpins the agreed treatment framework for the athlete.

A reduction approach to stress management intervention

As mentioned earlier, one approach to stress management adopts techniques that are designed to *reduce* competitive anxiety symptoms. In line with the distinction between the different cognitive and somatic anxiety symptoms, the treatment programs that are prescribed under the reduction approach can be broadly categorized into mental skills and physical skills. Although general in nature, it should be noted that this distinction has arisen from several groups of sport psychologists suggesting that the anxiety treatments they provide should target or *match* the dominant anxiety symptoms that the athlete experiences in a stressful encounter. To illustrate, this treatment perspective suggests that if the athlete's dominant anxiety response is somatic in nature (i.e., the intensity of the physical anxieties is higher than of the mental symptoms), then the treatment the practitioner should advise is a skill-focused mainly on reducing somatic symptoms, with less regard given to the cognitive symptoms experienced. Conversely, if the dominant anxiety response is a symptom associated with cognitive anxiety, a mental approach with less regard given to the treatment of any physical anxiety symptoms would be advocated. The skills outlined next are examples of techniques that would fit into this treatment framework, and, using the matching approach, coaches or sport psychology practitioners would select a treatment based on the performers' dominant anxiety responses.

The following sections detail the physical relaxation skills, mental relaxation skills, and thought-controlling techniques used under the umbrella of the *reduction* approach. These skills are described

as series of logical and progressive steps and are supplemented by a practical example in the form of a case study at the end of the chapter. To help athletes acquire the skills in question, a common learning framework is regularly adopted by applied sport psychologists. Briefly, the skills detailed here and in subsequent sections can be acquired through the following phases. First, the athlete learns the fundamentals of the skill in a stress-free environment working closely with the practitioner. Second, increasing independence from the practitioner, the athlete becomes more self-directed and begins to apply the skill in non-threatening situations. Third, the athlete is instructed to use, and also test the efficacy of the skill, in a non-sporting stressful environment. The final stage of learning and acquiring the skill involves the athlete applying the skills in increasingly demanding sporting situations: practice, warm-up, and fully competitive events.

Probably the most common application of a physical relaxation technique used to reduce athletes' somatic anxiety symptoms is the collection of psychological skills grouped under the rubric of *progressive muscle relaxation* techniques. Although these specific skills exist in several different guises, the most common enables performers to learn the skill of physical relaxation through a series of logical, progressive stages. The primary goal is for performers to reach an end point where the skill, and thus a relaxed physical state, can be attained very rapidly in practically any stressful situation. Traditionally, when learning the skill, athletes will advance through different stages where the amount of time it takes to achieve a relaxed state progressively decreases. During the preliminary stage of learning the skill, performers are required to systematically focus their attention on different gross muscle groups within the body, consciously tensing and relaxing to increase self-awareness of the difference between a tensed (anxious) state and a relaxed (less anxious) one. To supplement this process, athletes will usually be provided with some form of audio track that contains a set of instructions that methodically guides them through the muscle groups of their body. As with all the stages of the program, athletes will not progress to the next stage until they are proficient in the technique. Specifically, a constant and

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desirable state of physical relaxation needs to be achieved before the athlete can move on.

During the second stage of the program, the audio track is removed and the athlete is asked to simply relax the gross muscle groups used in the previous stage (rather than tense *and* relax). Once proficient, athletes can progress onto the third stage, where they focus on some form of cue that acts as an association-trigger to help invoke the relaxed state. This trigger can adopt several forms. For example, based on preference, athletes may condition the response through self-talk in the form of cue words such as “relax.” Alternatively, they may use a physical action such as gripping the handle of their racquet in tennis. Finally, they may incorporate a trigger conditioned to the exhalation phase of their breathing.

The fourth stage of the process strives to make the skill portable and shift its use into more realistic settings. Athletes are taught to avoid tensing the muscles that are not involved in a particular movement and actively relax those that are involved in the activity (during the time prior to movement). Up to this point, athletes will have tended to hone their relaxation skills in completely non-threatening environments that are usually quiet, familiar, and comfortable. During the penultimate stage of learning the skill, performers are taught to integrate the technique into naturally occurring semi-stressful environments away from the sporting arena. This process requires athletes to take two to three deep breaths focusing on their conditioned trigger during the exhalation phase of breathing to gain an associated level of physical relaxation. Examples of where this technique may be practiced include queuing whilst shopping, when running late for a social event, or when stuck in traffic while driving. The final stage of the process involves application training whereby the athletes practice their technique in progressively stressful sporting environments. This final stage usually takes place gradually over a period of time to refine the skill in intense sporting situations.

In comparison to physical relaxation, mental relaxation techniques have received far less exposure as treatment approaches to reduce athletes' mental anxiety symptoms in the research literature. Practitioners have tended to focus on alternative

cognitive strategies outside of those categorized as relaxation to reduce intensity levels of cognitive anxiety. However, *transcendental* mediation has been used as a mental relaxation technique with sports performers. This approach essentially adopts a cognitive-based framework with the underlying treatment target being more closely aligned with the mental anxiety symptoms experienced. Sport psychologists have, once again, tended to adopt a progressive learning approach to the skill of meditation in-line with the frameworks designed for physical relaxation. The goal of this approach focuses upon learning the skill of cognitive relaxation through a series of steps designed to transcend the mental state of the athlete from one of being mentally anxious to one of being mentally calm. Traditionally, when learning the meditative skill, performers progress through four stages to reach an end point where they can lower their levels of mental anxiety in a matter of seconds. The first stage involves athletes learning a general meditative technique that establishes a focus on breathing. Athletes are asked to introduce a “mantra” on each breath out, and once relaxed, count down from ten to one on each exhalation and then upwards from one to seven on each inhalation. The goal here is for performers to transcend down to a deeper level of cognitive relaxation and then actively shift back up to raise the level of consciousness. To supplement this process, athletes are often provided with an audio track that contains relaxing music and an instructional set outlining the process described earlier.

In the second stage, athletes are supplied with a second audio track that contains instruction but no relaxing music. The directions ask performers to focus on their mantra, and the counting procedure is subsequently reduced from five to one on exhalation, and then from one to three on inhalation to shorten the time it takes to achieve mental relaxation. Next, in the third stage the audio track is removed altogether and the athletes are instructed to discard all counting procedures. Athletes are then asked to concentrate on inhalation and repeat their mantra phrase on every exhalation. During this stage, athletes are also asked to transfer the skill into more realistic stressful settings (but away from sport) to reduce the mental

anxieties experienced in these situations. The final stage of learning the meditative skill involves application training for the performer where athletes are asked to integrate the meditative skill into progressively stressful sport environments.

Other mental relaxation techniques to treat cognitive anxiety include calming mental imagery and autogenic training. Based on the proviso that an athlete has been trained in the use of imagery, calming imagery can be used to help reduce cognitive anxiety. When using this technique, the practitioners commonly ask the performers to imagine being in a relaxing environment such as on a warm beach with the sound of the waves lapping the shore, or lying in a field on a pleasant summer's day. Essentially, practitioners should advocate whatever images athletes personally believe will provide them with a sense of calmness and mental relaxation. Autogenic training is fundamentally a self-styled hypnosis strategy that performers can use to help produce the two physical sensations of "warmth" and "heaviness." The process occurs through six stages. In the first stage, performers use self-dialog (e.g., "my right arm is heavy") and focus their attention on the heavy feeling. Athletes then cancel this effect by physically moving the arm while focusing on their breathing. This process is then repeated across other body segments until the sensation of heaviness can be achieved throughout the entire body. The second stage of the process replicates the first except the goal is to achieve a "warmth" sensation in the limbs and body rather than a feeling of heaviness. The two processes of achieving these sensations are then combined so that the athlete can accomplish a warm and heavy sensation simultaneously. The third stage aims to regulate the athletes' heart rate through using a verbal suggestion such as "my heart rate is regular and calm," which is then added to the process of achieving a warm and heavy sensation. The fourth stage links these procedures to breathing rate and the fifth stage associates these processes to the regulation of the visceral organs through a focus on the solar plexus. Finally, the sixth stage asks performers to focus on the strategy of placing a cool cloth on their forehead to experience a cool sensation. Once all six stages are complete, athletes practice the entire sequence all the way

through using a verbal citation (or mantra) that combines each individual stage to lower cognitive anxiety. One limitation with autogenic training, however, is the length of time practitioners suggest it takes to acquire and become proficient in the skills to achieve strong and profound sensations. Specifically, reports have indicated that it may take up to 6 months to become adept in autogenic training even when practicing the skill on a daily basis.

Alternative techniques to reduce cognitive anxiety that fall outside of the classification of relaxation skills include the use of thought control techniques such as thought stopping or positive thought control. Traditionally, thought stopping involves having athletes keep a diary of the anxious thoughts they experience prior to or during performance that they consider negative and intrusive to their preparation and performance. Athletes are then instructed to identify a trigger word such as "stop" or "no" to act as a technique to block the negative thoughts. Self-talk and internal dialog is advised to be used as means for athletes to execute this approach. Caution is, however, advised with using this technique without considerable expertise because of the potentially deleterious effects of attempting to suppress anxious thoughts with the unintended effect being the literal opposite.

The cognitive skill of positive thought control should be seen as an extension to the thought-stopping process. Specifically, rather than ending the process with the reciting of a blocking trigger word, athletes are instructed to "replace" the negative thought with a positive one to develop a more positive psychological orientation. Traditionally, athletes use a diary method supplementary to those used to record negative thoughts, where they are encouraged to construct positive self-dialog statements to replace each negative thought experienced. Therefore, the full process of positive thought control requires athletes to first identify any negative thoughts experienced, block the thought using a thought-stopping trigger word, and then finally replace the negative thought with a positive thought to create a positive cognitive orientation.

A summary of the psychological skills presented so far aligns with the singular approach outlined in the introductory statement within this section.

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Essentially, this approach advocates the use of these individual psychological skills as discrete treatment frameworks in-line with the athlete's dominant anxiety response (mental or physical). However, for certain sports, sport psychologists often recommend the use of combined mental and physical treatment packages. As such, practitioners and athletes are advised to select individualized combinations of mental and physical strategies in an attempt to treat the full range of anxiety symptoms athletes experience within stressful encounters.

It is important to note that the goal of these combined or integrated frameworks would still be focused on athletes reducing the intensity levels of anxiety symptoms. This raises an obvious issue in relation to the appropriate activation states required for certain sporting tasks. In particular, it is not always appropriate to focus *solely* on techniques designed to reduce competition anxiety symptoms. Indeed, the example given in the introduction helps illustrate this point. For the weightlifter, a reduction in both physical and mental anxieties may not be an appropriate strategy to create the best activation state for performance. An intervention approach based on this philosophy will potentially interfere with the suitable activation states required for optimal performance. In essence, therefore, the athlete may become too mentally or physically relaxed to perform. Consequently, some athletes may require, either generally or prior to certain specific tasks, an increase in anxiety levels to create the optimum activation state to enter the competitive arena. Several "energizing" techniques have been proposed to serve this function when performers require increased activation. Traditionally, these techniques are introduced after those skills designed to reduce anxiety symptoms because they are considered as more complex derivatives of the psychological skills. Essentially, practitioners can reverse the focus of several of the skills outlined in the reduction approach and use them in an energizing way rather than a relaxing way. For example, breathing exercises can be just as effective at producing an energized state as they are as a calming one. When teaching these skills, practitioners first ask the performers to use their breathing control techniques to gain a relaxed state. Following achievement of this state, athletes are

asked to consciously increase their breathing rate and imagine that with each inhalation and exhalation that they are increasing energy levels and reaching an optimum activation state. This breathing technique is usually combined with self-talk cues. For example, athletes might be advised to use a cue word such as "energy up" on inhalation. Additional techniques that practitioners can prescribe to increase activation levels involve the use of imagery-based skills. However, rather than using these in a calming function as outlined previously, the skills would be used as an energizing function. Specifically, practitioners ask athletes to image scenes that depict the creation of energy. Examples of images of this sort include images of trains moving slowly, gaining momentum and speed, images of heavy machinery where working parts move rapidly, images of natural forces such as powerful waves and winds, and images of animals sprinting and moving rapidly. Finally, rather than using self-talk skills with cue words associated with a relaxed state, this technique can also be applied in an energizing function. The content of the verbal dialog is all that needs to change for performers here, and practitioners would advocate the use of words such as "explode," "charge," and "power" to help facilitate the process of energizing the athletes' pre-performance activation level.

Unless the activation demands of the task are considered, the approach of generalizing treatments across sports may be problematic. The need to consider this issue is a key part of the restructuring approach to stress management interventions outlined in the following section. Specifically, sport psychologists may adopt a more individualized approach to the treatment of anxiety with the realization that advocating a general reduction or activation approach may not be appropriate for the demands of some sport tasks. The philosophy underpinning the restructuring approach suggests that rather than attempt to alter the level or amount of anxiety symptoms, it is more beneficial for practitioners to focus on the athletes' appraisals or interpretations of these symptoms. In particular, experiencing symptoms of competitive anxiety is considered a natural process in elite sport in which cognitive anxieties signify the importance of the event and help to stimulate the levels

of effort needed to perform well, and somatic anxieties indicate a physical readiness to perform at a high level. Essentially, practitioners prescribe a range of psychological techniques that, when executed proficiently, allow performers to gain control over the anxiety symptoms, enabling the athletes to restructure and interpret anxiety (mental and physical) as helpful (or positive) for optimal performance. In this approach, practitioners essentially prescribe a psychological skills program that not only treats the competitive anxiety symptoms experienced by the performers, but also considers the activation demands of the tasks in their sport environment.

A restructuring approach to stress management intervention

The final remarks of the last section provide an applied rationale for adopting the restructuring approach in the development of stress management interventions for elite sport. It is also important, however, to provide a brief insight into the research that underpins the evidence base for the development of this approach. In addition to the applied reasoning, the restructuring approach has emerged as a direct consequence of developments in the research literature on competition stress, anxiety, and sport performance. Specifically, over the past 15 years, this research has consistently identified that certain athletes have the ability, or have learned over time, certain skills that enable them to interpret their anxiety symptoms as positive toward performance, whereas other athletes interpret their anxiety symptoms as negative. Studies have also suggested some important individual attributes that are related to the ability to interpret anxiety symptoms as positive toward performance. For example, athletes who view their competitive anxiety symptoms as more positive toward performance demonstrate better overall performance standards, are higher in skill level, feel more in control, exhibit higher levels of self-confidence, demonstrate a more resilient personality, and are more experienced and more highly competitive when compared to athletes who interpret

their anxiety symptoms as more negative toward performance. Given this association with positive performance and desirable personal qualities, applied researchers have sought to explore and identify the factors that enable athletes to achieve a positive interpretation of their competitive anxiety symptoms. This research has been undertaken with the explicit aim of informing the structure and content of possible stress management programs, and has helped construct the interventions used within the restructuring approach.

Recent studies with elite athletes have shown that elevated anxiety symptoms are not necessarily debilitating toward performance and therefore techniques designed to alter the levels of anxiety may not be appropriate for the activation demands of certain sports (e.g., weight lifting, explosive track events). Further, athletes with a positive interpretation of their anxiety symptoms have consistently suggested that it is the application of strategies that help them appraise their symptoms in a positive way that are most valuable to their performance preparation. The important psychological strategies involved in this approach are self-regulatory skills that provide athletes with a sense of perceived control over the environment and themselves, and enable them to maintain a high level of confidence that protects against negative anxiety interpretations. These strategies include cognitive restructuring and rationalization of anxiety symptoms (through the use of self-talk), goal setting practices that provide athletes with a level of control over the situation, and mental imagery that emphasizes control over their emotional state and depicts mastery of skills and performance. The following sections provide overviews of each of these psychological skills that indicate how they can be applied to help athletes foster more positive interpretations of anxiety symptoms.

Although essentially cognitive skills, the restructuring and rationalization of symptoms can be applied to help athletes cope with mental and physical anxiety. These skills are underpinned through the use of self-talk and are variations of approaches from cognitive rational-emotive behavioral therapy in the field of clinical psychology. Use of these skills is based on the premise that athletes experience and appraise situations that lead to beliefs

{AQ5} that are either rational (i.e., positive interpretation of anxiety symptoms) or irrational (i.e., negative interpretation of anxiety symptoms). Rational beliefs lead to functional (beneficial) consequences for performance, whereas irrational beliefs lead to dysfunctional (harmful) consequences for performance. The application of these skills provides athletes with a framework to question the interpretation of the negative symptoms and turn them around to form a positive interpretation, thereby creating beliefs that lead to functional consequences for performance.

Traditionally, when learning the skills, athletes are taken through three progressive stages that focus on *identifying*, *disputing*, and then *replacing* their negative interpretations of anxiety symptoms. First, practitioners ask athletes to keep a diary of the negative mental and physical anxiety symptoms they experience. The athletes are then asked to *identify* that the symptoms are indeed irrational and will have a negative impact upon their preparation and performance. To achieve this, athletes apply the following questions to the symptoms they experience: "Is my appraisal based on fact?" "Does my appraisal help me achieve my sporting goals?" and "Does my appraisal help me to feel positive about my upcoming sport performance?" If the athletes answer "no" to these questions, then they are asked to question this initial appraisal and provide examples of how these interpretations can be *disputed*. An example of a thought process that would require disputing comes from the following extract from an interview with an elite field hockey player.

It is a combination of mental and physical things... they all come together, the worries make me stale, on the physical side I feel tense and in a rut. It becomes a completely negative thing and a completely negative feeling... I get anxious and worried and it is a distraction to me, a massive distraction.

This quote highlights the thought process that leads to a negative interpretation of pre-competition anxiety and a situation where experiencing these symptoms is viewed as harmful for their preparation and performance. Here, practitioners would educate

performers to *dispute* this irrational appraisal and *replace* it with a rationalized or *restructured* thought process, thereby creating a positive anxiety interpretation for performance. Continuing the example, the athletes would be educated to change the appraisal of their anxiety symptoms by questioning whether tension and worry are always detrimental to performance. The athletes would be asked to replace these thoughts with the ones suggesting that the worries they experience highlight the personal importance of the event and create an importance that equates to increased effort and a more focused and concentrated state. Finally, athletes are educated to consider that the physical symptoms they are experiencing actually indicate a level of physical preparedness for the task in hand and a readiness to physically perform optimally. Initially, the application of these skills can be challenging, and it is advised that athletes progress through the stages with a high degree of conscious thought and reliance on a suitably trained sport psychologist. Tapes, diaries, and scripts are often used to assist and educate the performer during this process to help create individualized restructuring programs. However, as athletes practice the skill and engage in ongoing dialog with the consultant, the application of the skill becomes a more automatic process. The following quote taken from an Olympic field hockey player provides a contextualized example of the restructuring and rationalization approach in action once the athlete has gained autonomy of the skill:

Nerves, anxiety and worry I can now actually turn them into a positive. If I am nervous and anxious I actually become more focused and it gives me a motivation to do it. It becomes a way of helping me, if I am anxious I feel focused and if I'm focused the nerves are helping me. So I think it is important for me to feel nervous and anxious, I can now turn it into giving me focus and it helps tell me there is a point behind why I am doing it (competing) and why I am feeling this way.

In an attempt to protect athletes from negative anxiety interpretations, goal setting and imagery skills can be used as confidence management strategies

to help develop positive anxiety interpretations. Dealing with goal setting first, the notion of control as outlined earlier in this section becomes important. Specifically, in sport psychology, there are three main goal types: outcome, performance, and process goals. Outcome goals are based upon competitive outcomes (e.g., match result or position in a race) and typically involve some level of social comparison (i.e., the outcome is directly influenced by the performance of one's opponents). Performance goals are usually numerical and specify some form of absolute or self-referenced value (e.g., a split time in a 400-m race or a percentage successful pass completion rate in a team invasion game). Process goals focus on the demonstration of a certain behavior, skill, or strategy that relates to the sport task (e.g., maintaining a full follow through on a smash in badminton). Athletes maintain a greater degree of control over process and performance goals than outcome goals. The implication for this in relation to achieving a positive interpretation of anxiety is that when athletes maintain greater levels of control over a situation, they are more likely to interpret their anxiety symptoms as positive toward performance. Therefore, sport psychology consultants working toward positive anxiety interpretations should consider setting performance and process goal types as a protection mechanism. However, caution is advised here in relation to the idea that setting outcome goals is always a detrimental strategy for elite athletes. Although perceived controllability over outcome goals can be an issue, and unrealistic outcome goals can actually create anxiety for performers, the powerful motivational properties of outcome goals cannot be ignored. Therefore, athletes should set all the three types of goals, but place a greater degree of importance on performance and process goals as the competitive event becomes more imminent.

Mental imagery is a second psychological skill that athletes can use as a confidence management strategy to protect against negative interpretations of competitive anxiety. The functional classifications of imagery that have been most closely associated with attaining positive interpretations include athletes imaging the mastery of performance-related plans (e.g., tactical plans

being executed correctly), imaging the mastery of specific skills related to the athletes' role in competitive situations (e.g., successful shooting skills as a goal attack in netball) and imaging successfully managing the emotions that accompany competitive sport (e.g., imaging completion of a pre-shot routine that enables athletes to control their emotions and interpret anxiety symptoms as beneficial). As imagery is a notoriously difficult skill for athletes to master, sport psychologists usually work on performers' imagery skills using non-threatening scenarios before using imagery as a skill to restructure anxiety symptoms. The impact of any imagery intervention is partially dependent on the quality of the image the athlete can create with respect to submodalities of information. In this context, submodalities of information refers to the visual quality of the image (i.e., color and real-time movement), the auditory quality of the image (i.e., realistic crowd and background noise), kinesthetic properties of the image (i.e., associating the image with the feeling of real movements), and the perspectives (i.e., an internal perspective of viewing the image through one's own eyes or an external perspective as if viewing the image through a camera) from which athletes view the image. Specifically, the greater the control and vividness athletes possess over integrating these submodalities of information into their imagery drills (i.e., making their images as life-like as possible), the greater the impact the intervention has over the intended target. Hence, athletes could be asked to visualize a visit to shops, where the goals of the practice session would be to increase the visual quality of the images with a focus on seeing the images through an internal perspective with bright, vivid colors and movement that reflects the real-time action of the scene.

Once athletes have demonstrated a level of proficiency with the skill, practitioners target the imagery intervention toward maintaining confidence and creating a protection mechanism over negative anxiety interpretations. Initially, the sport psychologists and athletes produce a series of imagery scripts and audio tracks for the athletes to use to hone their imagery skills. For example, if the crux of the imagery routine that athletes require is a focus on images depicting mastery of certain

skills within their sport, the sport psychologists ask the performers to (a) record the key skills for their role in their sport, for example, shooting skills as a goal attack in netball; (b) recount recent good performances of these skills, possibly making use of video; and (c) include as much information as possible to recreate a vivid image. The sport psychologists and athletes use this information to develop a series of imagery routines the athletes can use to create images depicting mastery of skills. The input of athletes into this process and the use of their knowledge base of the sport is a critical factor in creating tangible individualized imagery routines that have relevance to the performers. Scripts and recordings and one-to-one work with a sport psychologist underpins this work until the athletes become proficient at creating these images without the need for such tools. Sport psychologists use diary methods, checklists, and validated measures of imagery ability to consistently evaluate the athletes' progression with the learning of the skill. Once proficient at recreating sporting images in non-threatening situations away from the competitive arena, the athletes integrate the use of the skill into progressively increasing stressful environments within their sport (i.e., training, practice matches, main events) to gain full control over the skill in intense pressurized competitive settings.

A summary of the psychological skills presented under the umbrella of the restructuring approach is one that advocates combining various techniques into an integrated framework. Creating individualized psychological skills programs that are designed to meet the specific needs of the athlete is recommended. The important distinctions of these programs over those that attempt to solely manage the level of anxiety is the creation of an appraisal process whereby athletes gain control over themselves, the situation, and the anxiety symptoms that they experience in stressful environments. This approach also enables sport psychologists to take into account the specific activation demands of the tasks and events in which performers compete. A final caveat to the restructuring approach is that, to date, research has indicated that it is the more elite performers who may gain the most out of such an approach, whereas for lower level athletes, programs based on relaxation may be more suitable in the first instance. It appears, therefore, that the more advanced psychological skills used within the restructuring approach are more suited to elite level performers. Whichever approach is used, a suitably trained sport psychologist should design and deliver the content of the program, at least until athletes become proficient with the skills they are developing.

CASE STUDIES

Two case studies are presented to demonstrate approaches to treating competitive anxiety symptoms that athletes can experience. The reason for outlining two case studies is that although the restructuring approach provides a contemporary and complete treatment program for athletes, there are situations where the reduction approach is highly applicable. The decision of whether the sport psychologist uses the reduction approach or the restructuring approach should be based specifically on the activation levels required for optimal performance in the sport and the individual characteristics of the athlete. The two case studies presented here illustrate this point by featuring scenarios that feature Jon, an athlete in the sport of Olympic target rifle shooting, and Pete, an athlete in the sport of Olympic swimming.

CASE STUDY 1: JON

The athlete

Jon is a 34-year-old target rifle shooter who has been competing in his event for 10 years at a high standard.

Reason for consultancy

As a target rifle shooter, Jon had indicated to his coach and the sport psychologist for the team that he was having problems dealing with negative and distracting thoughts when preparing to shoot, and that he was experiencing high levels of physical tension in the shooting arm and shoulder prior to execution. He indicated to the consultant that he was feeling anxious prior to his events, that his performances were below par, and that he did not remember thinking or feeling this way when performing at his best.

Background

Following this discussion between Jon, the coach, and the sport psychologist, a consensus was reached that Jon would spend some time working with the sport psychologist to resolve the issue. In response to his concerns, the sport psychologist asked Jon to complete a series of validated questionnaires assessing his levels of anxiety and asked Jon to keep a diary of his thoughts and feelings prior to several important competitions.

CASE STUDIES (Continued)

Jon also sat down with the sport psychologist and discussed these issues in a one-to-one consultation. After triangulating this information, the sport psychologist established that Jon had high levels of both mental and physical anxieties both prior to performance and between shots on the rifle range.

Professional assessment

Given that the appropriate activation state that demonstrates a readiness to perform in target rifle shooting requires low levels of both mental and physical symptoms, the sport psychologist advocated an intervention program that followed the reduction approach to the treatment of competitive anxiety symptoms. As Jon indicated that his level of negative thoughts (i.e., cognitive anxiety) and negative feelings (i.e., somatic anxiety) were impairing his performance, and the evaluation indicated that both of these responses were high, the intervention targeted the reduction of both mental and physical anxiety symptoms.

Intervention

Jon was provided with an intervention program based on both mental and physical skills designed to reduce the levels of symptoms he experienced. As such, he was provided with a progressive muscle relaxation program to treat his physical anxieties, and was given a transcendental meditation program to help combat his mental anxieties. As Jon had indicated his symptoms were distracting him both prior to and during performance (i.e., between shots), both programs were designed as full progressive techniques in order for Jon to be able to use them before competing and between shots on the rifle range.

Outcome

Following the successful learning and application of the physical and mental relaxation programs prescribed by the sport psychologist (a process that spanned approximately 14 weeks), Jon indicated that he was able to effectively control his physical symptoms during competitive shooting performance. However, although the transcendental meditation program was having some success at reducing his mental anxieties, Jon still felt that this was a slight distraction to him. Following this concern, the sport psychologist advocated the use of a calming imagery technique. Following a further 5 weeks of training and learning this additional skill, Jon indicated he felt comfortable and able to regulate the levels of mental anxiety he experienced before and during shooting performance.

CASE STUDY 2: PETE**The athlete**

Pete is a 27-year-old competitive 50m freestyle swimmer. He has competed in his event for 9 years at the elite level and represented his country at one Olympic Games and one World Championship. Although he recently achieved the qualification time for the Olympic Games at his national trials, his time and

performance in this race did not satisfy his, or his coaches', expectations.

Reason for consultancy

As a competitive 50m freestyle swimmer, Pete had indicated to his national team's sport psychologist that prior to the recent Olympic trials and, indeed, during the warm up events to the trials, he was having problems dealing with distracting negative thoughts and high levels of muscle tension when in the waiting room preparing to race. Pete suggested that he was conscious of these mental and physical symptoms prior to the race and he felt they were having a negative impact on his pre-race preparation. He indicated that although he had experienced such symptoms all the way throughout his career, it was only recently that he felt unable to control their impact on him and how they were likely to affect his performance.

Professional assessment

Following this discussion, the sport psychologist and Pete agreed that they should put in place a program of work to alleviate the concerns Pete had expressed. Therefore, the sport psychologist asked Pete to complete a series of validated questionnaires assessing his pre-race anxiety levels and whether he viewed experiencing these symptoms as positive or negative toward his impending performance. The sport psychologist included information pertaining to how Pete was interpreting his anxiety-related symptoms due to the fact he had talked about a lack of control over how he thought the anxiety symptoms were likely to affect his future performance. The sport psychologist also consulted with Pete using an individual one-to-one approach to gain an understanding of his anxiety responses. Following this, the sport psychologist established that Pete's levels of pre-event anxiety were high and that he interpreted these symptoms as having a detrimental effect on his performance. Given that 50m freestyle is an explosive event that requires a high degree of power as well as controlled aggression, the appropriate activation state for Pete that demonstrates a readiness to perform is one where he experiences a relatively high level of controlled physical and mental symptoms. In this instance, the sport psychologist advocated a treatment program that adhered to the principles of the restructuring approach. Prescribing techniques that only reduced Pete's symptoms could have had a detrimental effect on his performance, as he could have become too mentally and physically relaxed for the activation demands of this event, which, at Olympic level, typically lasts between 22 and 23s.

Intervention program

Pete was provided with an intervention program based on restructuring the interpretation (negative to positive) of both his mental and physical anxieties. The main message of this program was to restructure Pete's anxiety interpretations to one where he viewed his mental symptoms as indicators of the

CASE STUDIES (Continued)

importance of the event and his physical ones as indicators of his physical readiness to perform. The sport psychologist also provided some confidence maintenance techniques (i.e., goal setting and mental imagery) designed to help protect against potential negative interpretations of anxiety-related symptoms and any subsequent detrimental performance effects from the anxiety symptoms Pete experienced. As such, over time, Pete was tracked through the restructuring program outlined in this chapter. This process educated Pete to view his symptoms as a positive consequence for performance, removing the negative effects of anxiety on his race preparation.

Outcome

Following an intensive intervention program over a 10-week period, the treatment resulted in a reinterpretation of Pete's anxiety from negative to positive without reducing the level of anxiety symptoms (an indication of Pete attaining an appropriate activation state prior to competing). Indeed, following the intervention, Pete reported that he felt that his mental and physical symptoms were indicators of the importance of the event, how much effort he was prepared to invest in it, and how the symptoms could actually improve performance.

Further reading

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{AQ6}

Author queries

- {AQ1} Please check whether the title is relevant to the text; we are retaining the title as “Management of competitive stress in elite sport”
- {AQ2} Please confirm whether the edit made in the sentence “The following section helps...” is acceptable.
- {AQ3} The sense of sentence “Although these specific skills exist...the most common enables...” is not clear. Please suggest.
- {AQ4} Please confirm the edits made in the sentence “Self-talk and internal dialog...”
- {AQ5} Please confirm the edit made in the sentence “Rational beliefs lead to functional...”
- {AQ6} Please update the reference Thomas et al. (in press).