

Controlling Emotions in Sport

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Emotions play a central role in sport performance. Accordingly, it is important that athletes are able to draw on a range of strategies to enhance emotional control. The present paper outlines a number of strategies based on Lazarus' cognitive-motivational-relational theory of emotion. Strategies are outlined that aim to change cognitions, resulting in either a more appropriate emotional response or a suppression of the expression of emotion and any maladaptive behavioral consequences. These techniques comprise self-statement modification, imagery, socratic dialogue, corrective experiences, self-analysis, didactic approach, storytelling metaphors and poetry, reframing, cognitive paradox, and use of problem-solving skills. Furthermore, given the changes in physiological arousal accompanying certain emotions, it is also suggested that general arousal control strategies could play an important role in emotional control.

Sport is an emotional experience for many athletes. An important victory can result in happiness and joy, and a crushing defeat may result in despair and disappointment. An athlete's emotional state may also affect the outcome of a competition by influencing performance both during training and while competing (Butler, 1996). The aim of this paper is to outline a range of psychological strategies that could be used by athletes to enhance their emotional control, resulting in improved performance levels. The paper is divided into four sections. The first discusses how emotions arise, along with the characteristics of an emotional response. The second section describes how emotions may impact sport performance, and the third outlines a number of psychological strategies that could be used by athletes to enhance emotional control. The fourth section contains concluding remarks incorporating some areas of future research interest.

Understanding Emotion

Arriving at a single definition of emotion is a difficult task given the range and complexity of the different states it must adequately describe. One definition of

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emotion previously applied to sport by Vallerand and colleagues (Vallerand, 1983, 1987; Vallerand & Blanchard, 2000) was first formulated by Deci (1980), who defined emotion as the following:

... a reaction to a stimulus event (either actual or imagined). It involves change in the viscera and musculature of the person, is experienced subjectively in characteristic ways, is expressed through such means as facial changes and action tendencies, and may mediate and energize subsequent behaviors. (p. 85)

Before considering how Deci's definition may be used to understand the characteristics of emotional responses, the origin and maintenance of emotions during sport performance are outlined.

The Origin of Emotions During Sport Performance

Emotion as a Response. The definition of emotion by Deci (1980) states that an emotion is a reaction to a stimulus, which can either be real or imagined. For example, on the rugby field, I feel happy because I scored a try, disappointed because I missed a tackle, scared because my opponent is powerful. A wide variety of stimuli may precipitate an emotional reaction in an individual, from stimuli in the environment (e.g., a visual stimulus) to internal stimuli (e.g., negative self-talk, racing heart). The conceptualization of emotion as a response distinguishes it from mood. Clore (1994) suggested that unless there is an object to the feeling, then it is a mood, not an emotion, and in support, Clore cited the work of Harré who said that in philosophical terms emotion *must be about something*. A mood is also considered to be longer in duration than an emotion (Ekman, 1994), which will tend to be more intense and change more freely (Mahoney, 1989).

The Role of Cognition in Emotion. Although some theorists have suggested that an emotional response does not always require cognitive processing (e.g., Zajonc, 1984a, 1984b), for others the role of cognition is central because one does not react in an emotional way to stimuli *perceived* to have no meaning or relevance (see Ekman & Davidson, 1994 for a discussion on this issue). As Clore (1994) noted, people feel happy about something, sad because of something, or scared of something. There must be a cognitive process that determines the relevance of an event or object that results in an emotional response. That is not to say that an individual is always aware of why they have experienced an emotion, as this process may occur subconsciously (Lazarus, 1991).

The role of cognition in emotional responses in sport settings has been highlighted by a number of researchers (e.g., Botterill & Brown, 2002; Cerin, Szabo, Hunt, & Williams, 2000; Kerr, 1997; Vallerand, 1983, 1987). One theoretical approach that emphasizes the important role of cognition in the emotion process and would appear well suited to providing a framework on which to base emotional control strategies is provided by Lazarus (1991, 2000a). Lazarus's cognitive-motivational-relational theory (CMRT) provides a detailed description of the cognitive processes involved in generating specific emotions. Furthermore, this approach has also recently been applied to understanding emotion in sport settings (Lazarus, 2000b). In CMRT, emotions occur when the individual appraises encounters with the environment as having either a positive or negative significance for well-being (relational meaning). Lazarus sees emotion as part of a changing person-environment relationship, and two components central to this process are

motivation and appraisal. Lazarus (1991) used the term motivation to cover both an individual's goals (e.g., to compete in the Olympics) and how they mobilize mental and behavioral responses in an effort to achieve a goal (e.g., train regularly). Individual goals also provide the basis for evaluating environmental stimuli in terms of personal harms and benefits.

Lazarus considered the evaluation of environmental stimuli to comprise primary and secondary appraisal. Primary appraisal is concerned with the relevance of a stimulus to a person's well-being in terms of their goals. The three ways in which stimuli are primarily appraised include goal relevance (Is there anything at stake?), goal congruence or incongruence (Is the stimulus beneficial or harmful?), and goal content (i.e., the kind of goal at stake, such as enhancing ego identity). An individual's goals are arranged hierarchically, and the stronger and more important the goal the more intense the emotion. For example, an elite swimmer may not be disappointed at being injured and missing an important club race but may feel very upset if this injury results in missing the Olympic Games, an event that is likely to be the highlight of the swimmer's career.

Secondary appraisal concerns coping options, which Lazarus defined as cognitive and behavioral efforts to manage demands that are appraised as taxing or exceeding the resources of that person. The three aspects of secondary appraisal include blame or credit (Can the responsibility for the harm or benefit be made?), coping potential (Is it possible to influence the person-environment relationship for the better?), and future expectations (whether things will improve or worsen).

To illustrate how Lazarus's CMRT can be applied to sport, consider the following examples. If an athlete in an 800-meter race is barged by an opponent, this stimulus is likely to be appraised as having some relevance to his/her goal (to win the race). If the athlete appraises this barging as a threat to ego identity (goal content), as deliberate (blame), and that they can cope with a physical race (coping potential), this incident may result in anger, defined by Lazarus (2000b) as "a demeaning offence against me and mine" (p. 234), being directed toward the athlete responsible for the barging. Conversely, a different athlete may also appraise the barging as having some relevance to his/her goal (to win the race), a threat to ego identity (goal content) but believe that the race in general is becoming physical (no specific blame). If they do not believe they have the resources to cope with a physical race (coping potential) and consequently are unsure they will be able to run well (future expectations), they may experience anxiety defined by Lazarus (2000b) as "facing uncertain, existential threat" (p. 234). This example illustrates the inter-individual differences that can occur in the emotion process. Lazarus (2000b) also suggested that a number of emotions could occur as a result of the same encounter if it contained a number of diverse goals and outcomes, and furthermore, there may be differences in the way the same individual reacts to similar situations depending on the relational meaning attached to that specific encounter.

Characteristics of the Emotional Response

In a comprehensive review of the area, Vallerand and Blanchard (2000) noted (based on Deci's definition) that emotion comprises three main elements: physiological changes, subjective experience, and action tendencies.

Physiological Changes. There are a number of physiological changes that are part of an emotional response. For example, an individual who is embarrassed

may blush, while an individual who is frightened may go pale. Other physiological changes that occur during emotional responses can be detected through biochemical measures (e.g., Frankenhaeuser & Rissler, 1970). Overt physical changes in the facial expression can also occur (e.g., scowling, smiling) which are thought to be important in the emotion process (e.g., Ekman, Levensen, & Friesen, 1983; Schwartz, Brown, & Ahern, 1980), although the magnitude of this role is unclear (Leventhal & Tomarken, 1986).

The role of physiological arousal is also relevant to the experience of emotion in sport settings. An increase in arousal may accompany some emotions (e.g., anxiety, excitement), and a decrease in arousal may accompany other emotions (e.g., disappointment, sadness), while some emotions may be accompanied by little or no change in arousal levels (e.g., guilt). The level of arousal may have a role to play in the intensity of some emotions. Zillmann's excitation transfer theory (1971) proposed that sympathetic activity does not terminate abruptly, but dissipates slowly. If residual arousal combines with arousal resulting from a subsequent situation, this can intensify the emotional experience (Zillmann, 1971; Zillmann, Katcher, & Milavsky, 1972).

Subjective Experience. Vallerand and Blanchard (2000, p. 6) suggest that subjective experience refers to "... what an individual consciously experiences during the emotional episode." For example, having missed a tackle, a rugby player may report feeling angry for committing the error and guilty at letting his or her teammates down. It is this subjective experience that is typically assessed in sport psychology research through the administration of self-report inventories.

Action Tendencies. Accompanying an emotion may be action tendencies that mediate and energize subsequent behaviors. For example, a field hockey player who feels embarrassed having made a number of poor passes may not call to receive the ball to avoid getting involved and making more errors. The occurrence of action tendencies has clear implications for behavior in sport settings and will be discussed in more detail in the following section.

How Emotions Impact Sport Performance

Researchers have demonstrated that a wide range of emotions are associated with changes in performance levels (e.g., Burton, 1988; Gould, Petlichkoff, Simons, & Vevera, 1987; Hanin, 2000; Hanin & Syrjä, 1995a; Hanin & Syrjä, 1995b; Jones, Mace, & Williams, 2000). Recently, Botterill and Brown (2002), Hanin (2000), Lazarus (2000b), and Vallerand and Blanchard (2000) have all outlined the mechanisms by which emotions may influence performance. Broadly, they suggested that an individual's emotional state could influence motivation along with both physical and cognitive functioning.

The Impact of Emotion on Motivational Aspects

Vallerand and Blanchard (2000) pointed out that many theorists consider emotion to serve an adaptational function that can mediate and energize subsequent behaviors by ensuring people channel extra physical and mental resources toward a task. These motivational consequences are described by Deci (1980) as action tendencies, and Vallerand and Blanchard (2000) noted that emotion can both lead individuals toward an object (e.g., anger) or away from an object (e.g., fear). Certain emotions

could have either effect depending on the particular individual and the situation. For example, an individual feeling guilty about an error during a basketball match may try to stay away from the ball to avoid making further errors. Conversely, the individual may try to gain possession of the ball as much as possible in an attempt to improve performance and overcome feelings of guilt. Hanin (2000) outlined a similar approach and suggested that optimal emotions for performance generate enough energy to initiate and maintain the required amount of effort for a task, whereas dysfunctional emotions result in an inappropriate amount of energy (too much or too little) being deployed.

The Impact of Emotion on Physical Functioning

As noted earlier, changes in arousal do accompany some emotions, and it is this change in arousal that impacts physical functioning. While it is pertinent to consider how arousal may impact physical functioning, it is also important to recognize that an individual in a heightened state of arousal is not necessarily experiencing an emotion, and individuals may experience emotions without necessarily changing their level of arousal.

Many athletes report that heightened levels of arousal facilitate performance. Gould, Eklund, and Jackson (1992) interviewed Olympic wrestlers about their precompetition preparation, and 70% referred to feeling heightened levels of arousal and intensity being present in their optimal prematch mental states. High levels of arousal can increase anaerobic power, which enhances performance on simple physical tasks (Hardy, Jones, & Gould, 1996; Parfitt, Hardy, & Pates, 1995; Parfitt, Jones, & Hardy, 1990). However, it could have a negative effect on fine motor tasks through increasing muscular tension, resulting in difficulties with coordination (Oxendine, 1970), manual dexterity, and fine control (Parfitt et al., 1990).

The Impact of Emotion on Cognitive Functioning

Cognitive functioning is impacted both by changes in arousal accompanying some emotions and by changes in cognitions. Parfitt et al. (1990) suggested that increased arousal may impair working memory and have differential effects on long-term recall depending on the type of task (improved for easy tasks but possibly impaired for difficult tasks). Furthermore, increased arousal accompanying anxiety (somatic anxiety) has been shown to have a positive effect on perceptuo-motor speed (Jones & Cale, 1989). In addition, under high physiological arousal, an individual's attentional focus is proposed to be narrower than under conditions of low arousal (Easterbrook, 1959). This narrowing may have a positive effect on performance if it blocks out unimportant distractions for the performer, enabling him/her to focus on task relevant cues. If the focus of attention, however, is too narrow, then an individual may miss some task relevant cues. Attentional focusing may also be governed by the subjective importance of cues rather than their location in the visual field (Hardy et al., 1996; Hockey & Hamilton, 1983). For example, individuals high in anxiety selectively attend to threatening stimuli (Mathews & Macleod, 1994). This is illustrated by a soccer attacker who focuses his or her attention on the location of the defender (as they are fearful about being tackled hard) rather than on the teammate in possession of the ball.

Although an increase in arousal may lead to a narrowing of the attentional field, the cognitions that accompany an emotional response can also affect an

individual's attentional focus. Moran (1996) noted that worrying reduces the cognitive resources available for the task and, therefore, the likelihood of relevant information being processed. Cognitive resources may also be reduced as a result of other emotions. For example, a tennis player may be playing well when a poor line call is made resulting in him/her losing the point. The tennis player becomes angry and as a result, dwells on the unfairness of the situation, does not direct enough attentional resources to the task, and performance suffers accordingly.

An individual's emotional state may also have a positive effect in channeling attention to the task at hand. In certain situations, worry may enhance performance and facilitate concentration, because an individual who is worried about something may allocate extra mental resources that could enhance performance (Eysenck & Calvo, 1992). Other emotions may have similar effects, and Hanin (2000) suggested that optimal emotions for performance ensure efficient use of available resources until task completion. Conversely, dysfunctional emotions lead to an inefficient or inappropriate use of resources, such as the task irrelevant focus of the tennis player described earlier.

Strategies to Enhance Emotional Control

Given that an individual's emotional state can affect sport performance, techniques to help athletes achieve emotional control are clearly important. The role of cognition in the generation and maintenance of emotions has clear implications for such techniques. In line with Lazarus (1991, 2000a, 2000b), cognition, in this instance, refers to the appraisal of the situation to determine the relevance of the stimulus to an individual's well-being in terms of their goals along with an evaluation of their coping options. It also refers to decision making, which may result in a particular behavioral response. Given the changes in arousal that can accompany some emotions, the use of arousal control strategies are also discussed.

Cognitive Strategies

Approaches using a cognitive-behavioral perspective (e.g., rational emotive behavior therapy, cognitive-behavior modification) share the central premise that cognitive mediators influence the perception of stimuli to produce emotional and behavioral responses (Wessler, 1986). It was this premise, along with the belief that an individual's cognitive processes are subject to the same laws of learning as overt behaviors (Kendall & Hollon, 1979), that led to cognitive-behavioral techniques for behavior change coming to the fore in clinical psychology. In order to improve performance, sport psychology practitioners have adapted and developed a number of these intervention techniques, for example, imagery and self-statement modification. Originally, these techniques were often combined in overall cognitive-behavioral intervention packages, such as, visuo-motor behavior rehearsal (Suinn, 1972), cognitive-affective stress management training program (Smith, 1980), and stress inoculation training (Meichenbaum, 1977). See Mace (1990) for a review of these intervention programs. More recently, however, there has been a shift toward a case study approach, with specific interventions being used on a more idiosyncratic basis (e.g., Jones, 1993).

The number of ways in which emotion can affect performance illustrates the idiosyncratic nature of the relationship between emotions and sport performance

and the need to tailor interventions to suit individual needs. For example, some sport performers may use the emotion of anger to energize subsequent behavior and ensure that they channel extra physical and mental resources toward their task, whereas other performers may find themselves distracted from the task at hand. A single emotion may also influence the subcomponents of performance in the same sport differently. For example, Parfitt et al. (1990) suggested that although an increase in arousal accompanying an emotion may enhance anaerobic power, it may also increase muscular tension resulting in difficulties with coordination. Put simply, a golfer may be able to drive the ball further but with less accuracy, and a basketball player may be able to jump higher but may not shoot so accurately. Similarly, Hanin and colleagues (Hanin, 2000; Hanin & Syrjä, 1995a; Hanin & Syrjä, 1995b) suggested that a range of emotions are associated with both facilitating and debilitating effects on performance, depending on their idiosyncratic meanings and intensities.

In order to tailor interventions, both to individuals and their sports, it is necessary to be aware of a range of strategies that may be used. Golden and Dryden (1986) have compiled a list of 11 strategies commonly used by cognitive-behavioral practitioners. Some of the strategies outlined by Golden and Dryden would reflect emotion-focused coping (Lazarus, 2000a, 2000b) involving the removal of an inappropriate emotion, the generation of an emotion that may have positive effects on performance, or altering the appraisal of the stimulus to result in a different emotional response. The remaining strategies would reflect problem-focused coping (Lazarus 2000a, 2000b) because they may not necessarily result in a different emotional response to the situation but may instead focus on suppressing the expression of emotion and any dysfunctional behavioral consequences. All the strategies listed by Golden and Dryden (1986) are outlined below along with examples that both illustrate how they could potentially be used in sport settings and how they have been previously been used by sport psychologists, coaches, and athletes.

Self-Statement Modification. In their analysis of coping strategies used by elite figure skaters, Gould, Finch, and Jackson (1993) reported that 76% of the sample reported using rational thinking and self-talk to cope with the stress of competition. Positive self-statements have also been used in conjunction with other techniques (e.g., relaxation training) in sport settings to reduce levels of anxiety (e.g., Prapavessis, Grove, McNair, & Cable, 1992), distress (Mace & Carroll, 1985, 1989) and stimulate a more positive perception of anxiety symptoms (e.g., Hanton & Jones, 1999). Self-statements could alter emotional states in two ways. First, by replacing a maladaptive self-statement with a positive or neutral statement, a stimulus is removed which may result in a negative emotional state. In addition, certain self-statements may be used as stimuli to actively generate an appropriate emotional state for performance (e.g., "I really played well in my last match" being used to generate happiness).

Imagery. In a recent study investigating imagery use in elite athletes, it was noted that imagery was not only used to increase excitement and get "psyched up" but was also used to maintain composure during competition (Munroe, Giacobbi, Hall, & Weinberg, 2000). Indeed, Martin, Moritz, and Hall (1999) suggested that motivational general-arousal (MG-A) imagery, which focuses on feelings such as relaxation, stress, arousal, and anxiety in conjunction with sport competition, could be an effective strategy for emotional control. Martin et al.

used bioinformational theory (Lang, 1977, 1979) to explain this potential effect. According to bioinformational theory, when an individual images a situation, he or she activates a stimulus proposition, which describes the content of the image and contextual factors (Hardy et al., 1996). In addition, a particular response proposition for that image is also activated, which may include an emotional response to that situation. Martin et al. (1999) suggested the use of MG-A imagery to modify response propositions to a particular stimulus should enable athletes to change undesirable emotional responses during stressful situations. Consistent with this proposition, Martin et al.'s review of the literature supports the effectiveness of imagery in increasing arousal and generating specific emotions (e.g., Murphy, Woolfolk, & Budney, 1988; Lee, 1990). Imagery could be used to generate a positive emotional state (e.g., recalling past success may result in happiness and excitement) or remove a stimulus that results in a negative emotion (e.g., images of the correct execution of the skill replacing images of failing).

Imagery could also be used to alter athletes' appraisals. Martin et al. (1999) describe the results from studies using motivational general mastery (MG-M) imagery, which represents effective coping and mastery of challenging situations. They suggest MG-M imagery may result in a more positive interpretation of the upcoming situation, resulting in higher levels of self-efficacy. It is also possible that this positive interpretation may result in a more positive emotional state. For example, rather than feeling anxious prior to a difficult ascent, a climber may experience excitement in that he or she now believes that they have the skills to climb well (coping potential) and that they will indeed climb well (future expectations).

Empirical support for the effectiveness of imagery in controlling emotions comes from Jones, Mace, Bray, MacRae, and Stockbridge (2002), who evaluated the impact of a motivational imagery script (comprising both MG-A and MG-M imagery) on the self-efficacy and distress levels of novice climbers. The results showed that participants who experienced the motivational imagery script reported higher levels of self-efficacy immediately prior to the climb and lower levels of distress both prior to and during the climb itself.

Socratic Dialogue. Here, thought-provoking questions are asked with the intent of getting the athletes to reevaluate some of their self-defeating ideas and misperceptions, a process of "self-discovery." For example, Jones (1993) reported a cognitive-behavioral intervention conducted with an elite racket sport player who became distracted following what she perceived as poor decisions by officials. The participant was asked to consider both how many times she had argued with officials following decisions in her career (several hundred) and how many times the officials had changed their decisions in her favor (three or four). Jones reported that as the result of this process, the participant became aware of the futility of such action. This strategy can be considered to influence the primary appraisal of the stimulus (i.e., there is no point considering the umpire's decision as being relevant to my success as there is nothing that can be done about it).

Corrective Experiences. Here, an individual makes a conscious decision to engage in the behavior that is of concern. An example would be a mountaineer who is anxious about leading a climb, but following a preparation period, which may for example include the mental rehearsal of the successful climb and encouragement from significant others, will eventually place themselves in the situation of leading a climb. Giges (2000) described a session conducted in a university workshop with

a dancer who was afraid of engaging in leaps and turns following a car accident some three years earlier. Giges described how he provided the opportunity for the dancer to engage in some practice jumps during the session, during which he not only provided support by holding her hand during the initial jumps but also by encouraging deeper slower breathing to control her anxiety. Giges also suggested that a major factor in the dancer actually engaging in a series of jumps was the strong bond that they had built up over the several years that they had known each other. By engaging in the behavior of concern, the dancer or athlete may well change their subsequent appraisal of the situation. For example, the dancer in this instance may subsequently experience less anxiety at the prospect of engaging in a series of jumps because she is aware, from recent past experience, that she is able to execute the correct movement pattern (coping potential).

Vicarious Learning: The Modeling Effect. An example of modeling appropriate behaviors is asking a tennis player who reacts with embarrassment to poor shots to copy the behavioral responses of someone who usually reacts calmly. Modeling may also include self-disclosures by the coach or sport psychologist of how he or she may have dealt with problems similar to those experienced by the athlete. With this technique, it is the behavioral rather than emotional response to a situation that is changed. Brunelle, Janelle, and Tennant (1999) examined the impact of role playing (including modeling and behavior rehearsal) and self-monitoring strategies in controlling anger among competitive soccer players. During the role playing sessions, the players were given the opportunity to practice alternative responses to typical anger inducing situations, such as a poor call by the referee. Following both observational and self-report data collected over 15 games, Brunelle et al. concluded that role-playing was effective in reducing angry behaviors, but not angry feelings. Although these findings support the notion that it is the behavioral rather than emotional response to the situation that is changed, it could be expected that over time, the acquisition of coping skills might alter the athlete's appraisal of the situation (coping potential). This change in appraisal may lead to a different emotional experience in similar situations, although such a change might take longer than the period assessed by Brunelle et al.

Self-Analysis. Athletes may keep a written account in which they record and monitor their emotional reactions in sport settings. For example, an ice hockey player might keep a journal to record the consequences of strong emotional responses during competition. Increased awareness of both the critical situations in which these emotions arise and the consequences of such responses could lead to more adaptive emotional responses and subsequent behaviors through a change in the way the situation is appraised. In the study by Brunelle et al. outlined earlier, soccer playing participants kept a game-by-game journal in which they monitored their own anger. Brunelle et al. concluded that even though anger awareness was effective in reducing angry behavior, it was not as effective as role-playing. Furthermore, in line with the data from the role-playing group, there was no decrease in angry feelings over the duration of the study. Brunelle et al. suggested that the awareness intervention was less efficient because of a passive learning protocol, whereas the role-playing group physically rehearsed the appropriate behaviors. Consequently, during games, the dominant responses for players who underwent self-analysis were predominantly the behaviors learned from previous competitive involvement and not the intervention. It is interesting that the results from Brunelle's study would suggest that this self-awareness intervention would change the behavior

rather than the emotion experienced. However, a change in an emotional response may occur if the self-awareness covers a process of self-discovery as outlined in Socratic dialogue, where the athlete will begin to reconsider some of his or her self-defeating ideas or misperceptions. Then, athletes might alter their appraisal of a stimulus. For example, increased awareness on the part of a volleyball player of the effect on his/her performance when reacting with envy to a teammate's good play may result in him or her appraising the teammate's play as irrelevant to their own personal performance, which is his or her major goal (primary appraisal).

Didactic Approach. Here individuals are educated about their problems, and similar to self-analysis, it is anticipated that increased awareness of both the critical situations in which these emotions arise, and the consequences of such responses, leads to more adaptive emotional responses and subsequent behaviors. For example, an athlete experiencing high levels of anxiety prior to competition may receive education as to its possible impact (positive or negative) on performance, along with examples of famous sport stars who reported feeling anxious during competition. Petipas (2000) used this approach with an elite female athlete. He reported giving examples of athletes who experienced competitive anxiety in order to normalize her reactions so that she became aware that she was not the only one who experienced these symptoms. This process of demystification may alter an individual's primary appraisal (relevance to goals), for example, "Some anxiety is a normal reaction to a competitive situation and there is no need to focus my attention unduly on it" (Is the stimulus beneficial or harmful?). It may also alter their perceived ability to cope (secondary appraisal), for example, "There are a number of skills that I possess that can be used to reduce anxiety, such as the deep breathing technique I have learned" (coping potential). Interestingly, the cognitive-behavioral intervention packages (e.g., stress inoculation training) often emphasize a conceptualization or education phase where athletes are taught the bases of their responses prior to psychological skills being introduced.

Storytelling, Metaphors, and Poetry. Similar to the didactic approach, the coach or psychologist can use these literary techniques to encourage the athlete to consider alternative ways of viewing and dealing with situations. An example may be using quotes or stories from past sport stars to illustrate how they achieved optimal emotional states for "unimportant" games or coped with the pressure of competition. Beswick (2001) provided an example of using a metaphor with a junior international soccer team. Faced with a difficult match, in a potentially hostile environment containing a number of distractions, the players and coaching team used a traffic light metaphor to maintain emotional control. Red indicated a loss of self-control, green represented perfect control, and amber was taken to mean the moment of decision when a player could either go green or red. The importance of "staying in the green" was emphasized to the players, and a number of techniques were employed when players were "in the amber" (e.g., deep breathing). Beswick reported that the team coped well with a number of distractions and won the match 4-0. The use of stories, metaphors, and poetry may be effective in a similar way to the didactic approach in that it could engage the athlete in a process of demystification, which could alter both their primary (relevance to goals) and secondary appraisal (e.g., introducing them to strategies that previous sport performers have previously used to cope).

Reframing. Here the event or behavior remains the same but its meaning or "frame" is changed. For example, Beswick (2001) reported the case of a soccer

striker in the English Premier League, whose game deteriorated after a period when he was not scoring many goals. Following consultation with the coaching staff, Beswick took the striker to observe one of his favorite strikers playing and asked him to list every contribution the striker made to the team's play. Subsequently, Beswick and the participant agreed on five essential elements of a striker's play, including the following: scoring goals, setting up goals, making forward runs and being available for passes, holding the ball up and bringing teammates into play, and pressuring defenders when they have the ball. When the participant considered how he was performing on all elements, he recognized that he had many positive scores (although he was low on scoring goals). Therefore, even though he was not scoring goals, he became aware that he was contributing to the team in other ways. This example can be applied to controlling emotions. Although a soccer striker may feel ashamed because he/she has missed several good chances to score during a game, the psychologist could point out that the real achievement was to keep getting into good positions to score after missing some opportunities. In this example, the stimulus (missing opportunities to score) is not appraised as wholly responsible for the player's perception of him or herself as an attacking player (i.e., goal relevance—primary appraisal), and the player experiences less shame.

This reframing approach may also be useful in changing the appraisal of symptoms while also gaining some coping skills. For example, Petitpas (2000) reported that in his work with an elite female athlete (referred to earlier), he changed her appraisal of a particular stimulus (changes in breathing rate) from a signal to panic ("I will play poorly today") to a signal to use a deep breathing technique. In this instance, reframing may have altered the athlete's perceived ability to cope (secondary appraisal). In their interviews with Olympic wrestlers, Gould, Eklund, and Jackson (1993) reported that 35% said that they coped with the stress of competition through "perspective taking" (e.g., treating the Olympics as just another tournament). This reframing suggests that the wrestlers were reducing the amount of goal relevance (i.e., how much is at stake) to control their emotional response.

Cognitive Paradox. This strategy involves the therapist feeding back the "voice of the irrationality" to the client in an exaggerated form in order to get the client to reevaluate his or her ideas. An example would be telling an anxious client "You are right, your opponent will not make a *single* mistake." It is anticipated that a reevaluation of the participant's ideas will lead to them replacing maladaptive thoughts with more realistic and beneficial ones. Again, similar to previous techniques, replacement of maladaptive thoughts may result in more adaptive emotional responses and subsequent behaviors through altering both the primary and secondary appraisal of the stimulus.

Teaching Problem-Solving Skills. Platt, Prout, and Metzger (1986) suggested that problem-solving skills are important during challenging interpersonal situations. Problem solving in interpersonal situations involves being able to generate a variety of response alternatives and to have an increased probability of selecting the most effective response from these various alternatives. Although such an approach would not immediately appear to be relevant to the origin and maintenance of emotions, consider the example of a young lacrosse player who having being made captain, feels anxious and embarrassed about relating to more senior teammates. The acquisition of problem-solving skills to deal with the range of situations he or she may encounter would be beneficial (see Platt et al., 1986 for an outline of how these skills may be taught). In the example of the lacrosse

player, a number of possible scenarios may be considered, such as having to tell more senior colleagues that they need to increase their work rate. Here it may be suggested that the encouragement is framed in a positive manner, such as "You are working really well, just try to raise the intensity even further until the end of the game." For Platt et al., problem solving in interpersonal situations involves not only generating a number of ways of dealing with a situation but of being aware of the consequences of a particular action that will help facilitate the correct choice of response. Therefore, the young lacrosse captain, in consultation with a coach or psychologist, may consider the following alternatives to the situation described: Say nothing (poor work-rate continues), berate his/her colleagues (no increase in work rate as his/her colleagues feel upset at being berated by a younger player), encourage colleagues (fellow teammates respond positively and increase their work rate). The acquisition of problem solving skills might change the person's coping options (secondary appraisal) leading to a more positive emotional response.

Arousal Control Strategies

Although a range of cognitive strategies have been outlined, the importance of regulating physiological arousal to assist in emotional control should also be emphasized. The level of physiological arousal has a potential impact both in terms of its effect on performance (e.g., Parfitt et al., 1990) and in relation to the intensity of emotions experienced (Hohmann, 1966; Zillmann, 1971; Zillmann, et al., 1972). A number of strategies have been proposed that aim to regulate the physiological arousal of an individual and improve emotional control (e.g., progressive muscular relaxation, centering, quiet place, emotive imagery, up-beat music, exercise). Increasing or decreasing physiological arousal would appear to have a blanket effect on the intensity of emotions experienced by the individual (Hohmann, 1966; Zillmann, 1971; Zillmann, et al., 1972). This assertion is supported by research conducted by Maynard, Hemmings, and Warwick-Evans (1995), who evaluated the effect of a somatic anxiety intervention strategy on both cognitive anxiety and somatic anxiety intensity and direction in semi-pro footballers. The results showed that although the intervention decreased the intensity of somatic anxiety, there were also decreases in cognitive anxiety (but to a lesser degree). Similar results were also found for field hockey players (Maynard & Cotton, 1993). Consequently, although a general arousal reducing technique (e.g., progressive muscular relaxation) may be targeted to decrease a particular emotion (e.g., anxiety), it may also influence the intensity of other emotions experienced (e.g., happiness). Strategies that influence physiological arousal need to be carefully considered because they may reduce the intensity of emotions important to success. Conversely, strategies that aim to increase physiological arousal (e.g., emotive imagery, up-beat music) may have the opposite effect and increase the intensity of a range of emotions.

Concluding Remarks

The aim of this paper has been to use Lazarus's cognitive-motivational-relational theory as a basis to outline a range of cognitive-behavioral techniques that may be useful for emotional control. Strategies that alter arousal may be used for emotional control given the role that physiological arousal may play in both the

experience of the emotion itself and on performance. Although these techniques are described separately, they are probably more commonly applied as part of an overall intervention package based on the individual needs of the athlete.

Future applied research should evaluate the effectiveness of the proposed techniques in controlling a range of emotions, although there are also a number of other areas of potential research interest. One area of particular relevance is an investigation of the effects of a range of emotions on subcomponents of performance and build on the work outlined by Parfitt et al. (1990), which focused predominantly on arousal and anxiety. Another area of interest is that the appraisal of stimuli can occur subconsciously (Lazarus, 1991), which raises the possibility of thoughts of which one is unaware affecting emotional states (see Kihlstrom, Mulvaney, Tobias, & Tobis, 2000 for a detailed discussion of this issue). People may also interpret the same stimuli differently. Lazarus (1991) used the example of how people approach flying to illustrate this point. Although most people know that flying (statistically at least) is the safest form of travel, it does not stop the same people being very anxious when they fly. It is possible that the appraisal of stimuli at different levels may help explain why cognitive-behavioral modification techniques do not always work as they may change the conscious appraisal of a situation but do little to alter the subconscious appraisal of the stimulus that might determine the emotional reaction. This is certainly an intriguing although challenging area to research.

To conclude, there are a number of ways in which emotions can effect performance, depending on the athlete and the type of sport. The aim of this paper was to outline a series of techniques, based on a theoretical understanding of how emotions arise, which will enable athletes to enhance their emotional control and improve performance levels in both training and competition settings.

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