

3.2 Techniques for working on anxiety and stress

Introduction

In terms of coping strategies, reference is made to the intentions of the athlete to modify the manifestations of their behavior. Precisely because behavior is observable, the athlete uses certain intervening strategies to change the way in which she is behaving.

The interventions that we will look at next refer to cognitive and behavioral characteristics. For example, when an athlete modifies her respiratory rate, which increased prior to the execution of a penalty shot, we can observe this behavior clearly, and this is what we are referring to in terms of an athlete using a behavioral strategy. In the case that an athlete analyzes a situation and thinks about modifying a certain action, we are referring to cognitive strategies, and of course the athlete's thoughts cannot be observed. It is known that how an athlete thinks about the competition and their confidence levels will both modify their behavior.

It is important to highlight a notable difference between psychological interventions and coping strategies. A psychological intervention refers to when a coach or psychologist uses a strategy to intervene and provide support to the athlete. This could involve providing a technique which is used to reduce stress levels prior to the competition. However once the athlete internalizes this technique taught by her coach, she will use it voluntarily whenever she is facing this situation, and thus it will have become a coping strategy. What began as a psychological intervention, with time and work can become a coping strategy.

If athletes fail to correctly use coping strategies this can generate chronic stress. Generally this is triggered when the competitive reality is not interpreted correctly.

The athlete uses the techniques taught by her coach or the group of psychologists to manage stress, not only to put into action what she has learned, but also to understand how events unfold as they happen. With this, the more experience the athlete has and the more prepared she is to face such situations, the better her sporting results will be. Thereby, her performance improves.

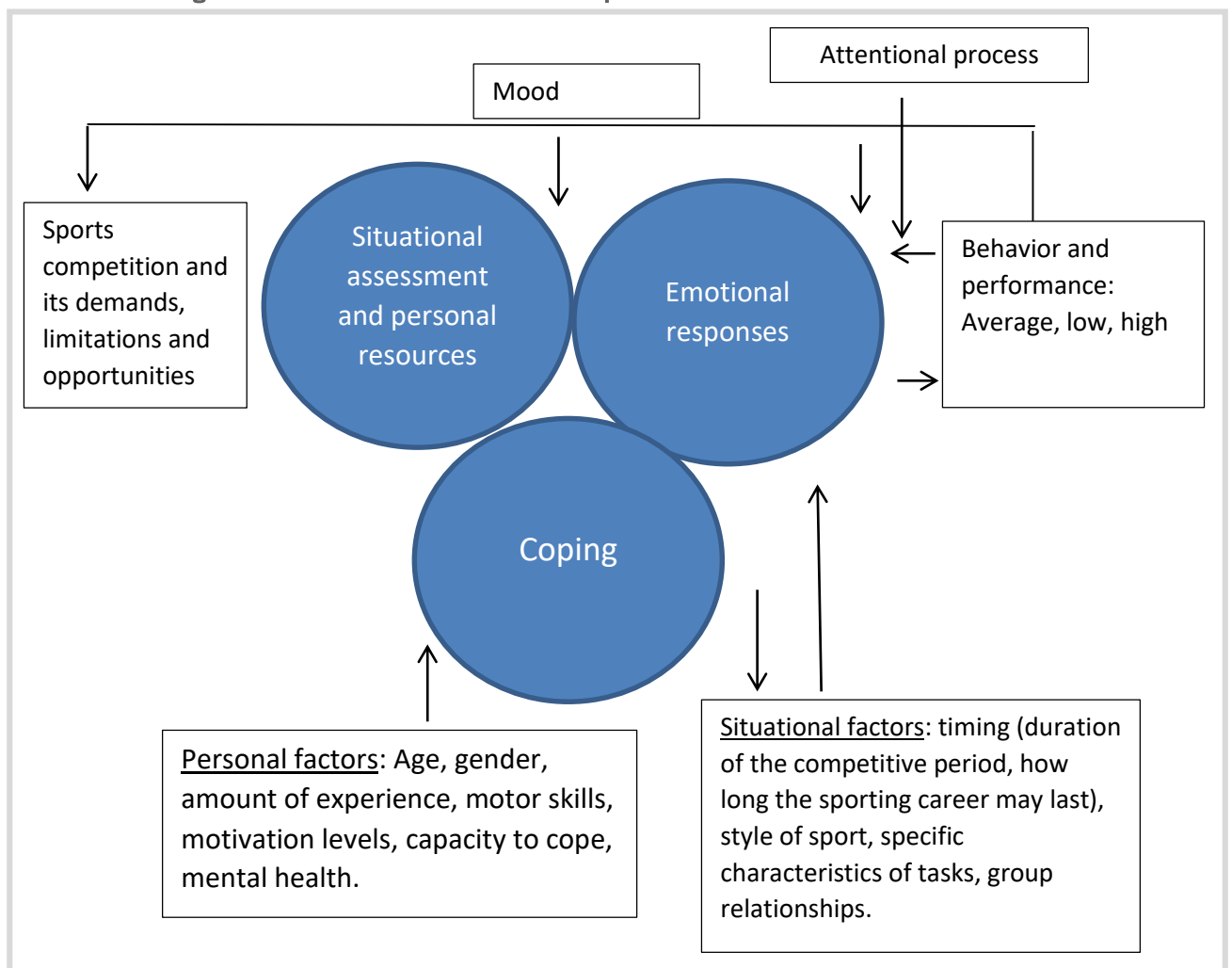
Coping strategies for stress and anxiety

Authors such as Lazarus and Folkman (1984) state that *coping* refers to cognitive and behavioral efforts that constantly shift to manage the internal and external demands of reality, which exceed the athlete's resources.

The coping strategies used by athletes play a fundamental role in stress processes and the influence of emotions.

It is known that the stress process is affected by mood, behavioral factors, the attentional process and situational factors.

Figure 1: Interactions and the stress process.



Source: Adapted from Mellalieu, S.D. (2003).

Coping is related to an athlete's personal skills or their ability to resolve stressful situations, in other words, their personal resources. In times of anxiety, faced with a particular competitive situation, the athlete uses their coping resources to reduce their stress levels.

This is called stress management: the use of relaxation strategies or control over arousal, which are used to reduce anxiety levels. As mentioned, when the athlete uses a psychological or behavioral strategy, she is demonstrating her coping strategies.

When coping strategies are used incorrectly, the coach can intervene by sharing potential behavioral or cognitive strategies.

Next, some theoretical work carried out by various authors on this subject matter will be reviewed.

Coping styles

Lazarus and Folkman (1984) argue that two types of coping strategy can be used. One is problem-based and the other is based on emotions.

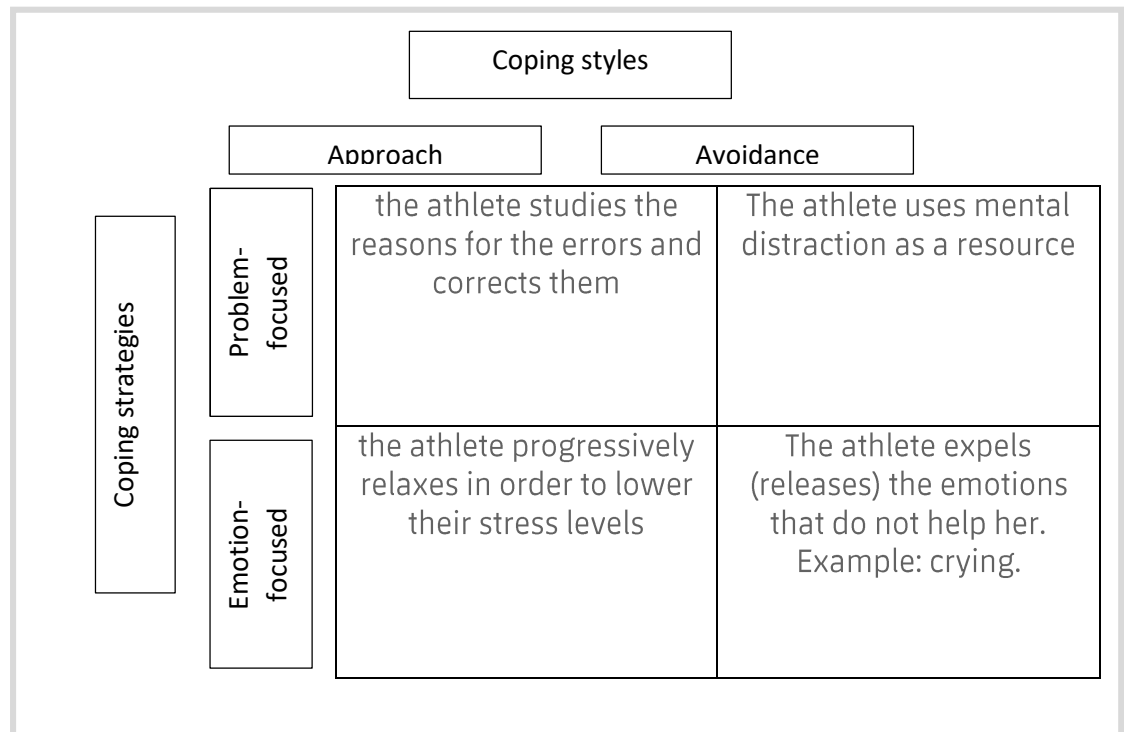
- Problem-centered coping: the environmental stimulus generates the stress response. In this case, the athlete, in response to a specific problem, draws on their experiences to resolve the situation. For example: a soccer player does not manage to pass the ball to a goalkeeper who knows his dominant leg, in this case the athlete begins to train his non-dominant leg to successfully manage future interventions. A problem is observed, in this case an issue related to motor skills, and work is done in order to solve it so that it can be dealt with next time.
- Emotion-centered coping: in this case the goal is to reduce emotional levels that can harm the execution of a certain task. In the example of the player, he tries to reduce his anxiety levels by reducing his stress, he does not focus on the motor skills problem but rather on the anxiety that this situation generates.

Anshel, Williams and Hodge (1997) suggest that another coping style is avoidance of situations that cause problems. In this case, they define two styles:

- Coping via approach: the athlete decides to face the facts and work on the problematic situation.
- Coping via avoidance: the athlete directly avoids the problematic situation.

Anshel (1997) takes the coping styles mentioned above and connects them in a table where the interactions between them are described.

Figure 2: Coping styles and strategies



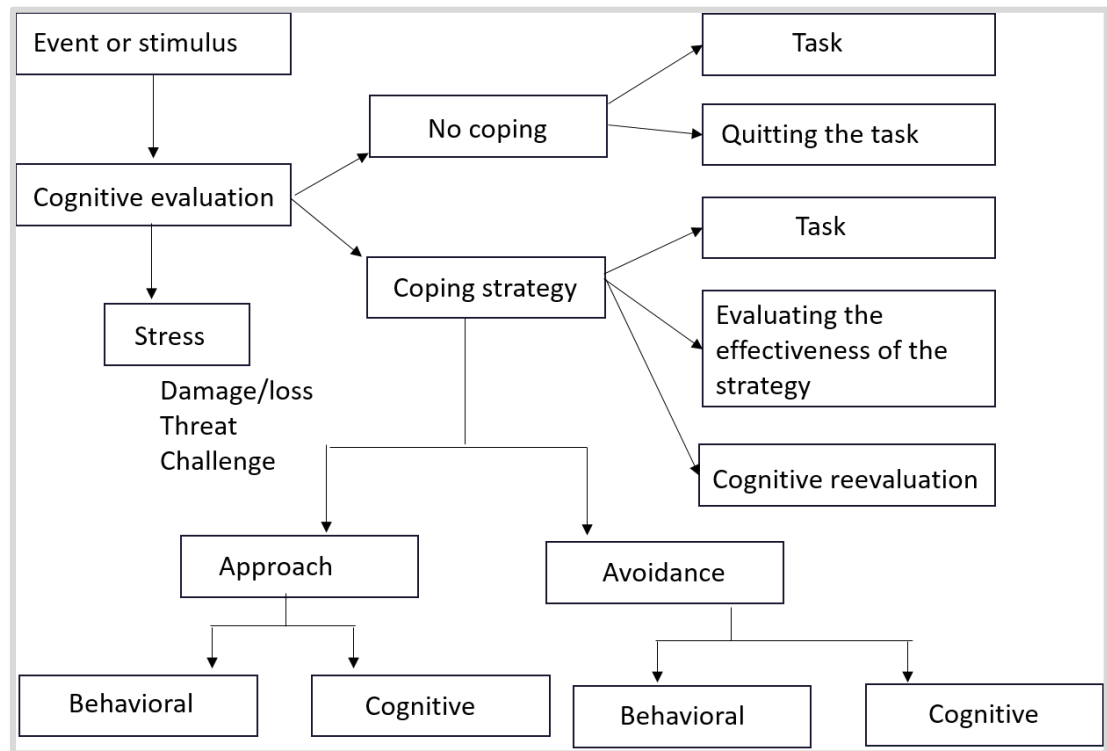
Source: Adapted from Anshel, et al. (1997)

Continuing with the authors (Anshel et al., 1997) we can see below how they develop the Coping Style in Sport Survey (CSSS) to measure coping skills. This survey includes 134 items which are related to seven of the most common stress factors in sport. It aims to try to identify how the athletes would respond to any of the factors.

- After committing an error, poor motor execution or mental performance.
- After being criticized by their coach.
- After identifying that their opponent tried to cheat.
- After feeling physical pain from an injury.
- After an incorrect judgment is awarded.
- After the rival team achieves something.
- After poor weather conditions, the state of the playing field or, criticism from fans.

The athlete's ability to deal with certain situations that cause anxiety, low levels of self-confidence and stress, can be transferred to other areas outside of sport. It is understood that an athlete who learns to face stressful situations as a result of their learned skills, will be better able to manage situations in their daily life.

Figure 3: Coping



Source: Anshel et al., 1997.

Factors that may influence the effectiveness of coping

Hammermeister and Burton (2004) demonstrate how an athlete's gender influences effectiveness when facing certain situations. In this case, they argue that women implement emotion-focused coping strategies more effectively than men. These authors introduce the concept *combined hypothesis*. A coping strategy focused on the problem tends to lower levels of cognitive anxiety compared to strategies focused on emotions.

In the same study it was observed how some coping strategies are effective in solving the problem in the short term and not in the long term. This is the case with avoidance, which is a strategy that is effective in the short term. In the case of emotion and problem focused strategies, these are understood to be effective in the long term.

We are always talking about dealing with stress. Coping styles that focus on avoidance, for example, are less effective in terms of the athlete's personal satisfaction. An athlete will be emotionally impacted when they are able resolve a situation without using avoidance.

If the athlete solves and confronts stressful situations, this coping strategy is related to improvements in levels of self-determination, which results in an improvement in motivational levels. This is positive for achieving goals.

Elite athletes

Any athlete who has well developed coping strategies will have greater possibilities of overcoming stressful situations and the demands of training and competitions.

Based on a study carried out with Olympic wrestlers, different and varied coping strategies were observed, which were narrowed down to four strategies that were considered to be the most important:

- Controlling thoughts.
- Focusing attention.
- Managing emotions.
- Managing and controlling behavior.

In another study, Park (2000) evaluated the coping techniques used by Korean athletes, identifying seven general dimensions after filtering more than 150 observed strategies. Each dimension was represented by how often it was utilized.

- Psychological preparation: 49.7%
- Performance and motor skills: 15.6%
 - Somatic relaxation: 14.4%
 - Hobbies: 7.8%
 - Support from the environment: 6.1%
 - Prayer - praying: 5.2%
 - Supplementation: 1.2%

It is clear that the most used coping strategy is related to the athletes psychological strategies or skills. Within this skill we can identify different variables such as: meditation, using positive thoughts, self-confidence, control and mastery of breathing, willpower and so on.

Training and therefore the athlete's motor skills, are in second place. Here the following variables are included: devote a lot of time to training, study opponents through videos, prepare days ahead of the match or the next competition.

The intention is to reduce the situations that can generate stress or anxiety for athletes as much as possible. The more you prepare for a competition, the better you will face this situation.

The third variable of analysis, somatic relaxation, relates to: rest with the right amount of sleep, massage sessions, training discharges to overcompensate.

The three categories analyzed up until now correspond to 79.9% of the strategies used, which is vitally important information for coaches and psychologists to use when identifying how to implement intervention strategies with athletes.

In a study conducted by Giacobbi, Foore, Weinberg (2004) with professional golf players, four problematic situations were identified which were faced using four coping strategies. These were: 1- Lack of communication between the coach and the player 2- Competition dynamics 3- Complications inherent to the tournaments in terms of stress generated 4- The players' fatigue level. These situations were dealt with using the following techniques:

- Cognitive adjustment.
- Relaxation.
- Commitment and effort to improve golfing performance.
- Creating strategic plans for competitions.

Techniques used to improve coping strategies

Internal dialog

This refers to the dialog that the athlete has with themselves while practicing sport and during competition. This dialog can either be negative or positive. Van Reaalte (1994) suggests that negative dialog is more common than positive dialog.

The goal is for the positive internal dialog to predominate, training the athlete so that it becomes a coping strategy to overcome anxiety, improve technical skills and levels of self-confidence.

The athlete, through their internal dialog, self-analyzes their perceptions, feelings and convictions. Generally an internal dialog is present in competitions and in training sessions. And in turn, it is more frequent in competitions than during training.

Dialog can generally be divided into three categories:

- Related to the task to be executed and the technique used
- Words of encouragement and strength
- Creating a specific mood

In a study by Zinsser, Bunker and Williams (2006) it was identified that the use of internal dialog improves levels of self-confidence. These authors summarize how this improvement can be made.

- Generation of a belief about improvement and self-confidence in the performance of a task.

- Learning new motor skills. With internal dialog, the athlete focuses so as not to be distracted and focuses their attention on learning.
- Modify and create moods. If the athlete manages to learn how to use the appropriate words, she can condition her mood in a positive way.
- Management of intensity during training and competition. It is essential that the athlete controls, through internal dialog, their intensity levels.
- Ability to focus attention and concentration. Concentration can diminish for various reasons, fatigue is one of these reasons. By using internal dialog this can be modified and guided correctly.

Techniques for athletic relaxation

Anxiety and high levels of anxiety, along with tension, are very common for high performance athletes. The goal here is to break the cycle of anxiety and stress. To do so, relaxation methods are introduced, which can reduce an athlete's levels of anxiety and stress.

Relaxation affects some of the body's physiological variables, which when aroused, will decrease stress and anxiety levels.

In this case there are four procedures that can be applied in terms of relaxation:

- Progressive relaxation.
- Autogenic training methods.
- Meditation.
- Biofeedback.

These processes generate the same effects from a psychological point of view—pursuing the goal of relaxation.

As mentioned, the impact on the body's physiological variables generate changes in: heart rate, oxygen consumption level, respiratory rate (hyperventilation does not help to lower anxiety levels and does not help relaxation), lower muscle tonicity levels.

Relaxation is achieved with four imperative variables, which when present, make it more likely that the proposed objectives are met. They are:

- Positive attitude.
- Decreasing muscle tonicity.
- Establishing calm settings and environments.
- Mental resources (words, gestures or phrases that help the athlete to focus)

The overarching objective of relaxation strategies is to generate in athletes a state that allows them to achieve good athletic results without being overwhelmed by stress or anxiety.

Next, the relaxation techniques mentioned above will be reviewed in detail in order to understand them fully.

Progressive relaxation:

The athlete starts by contracting one of their muscles and then relaxing this muscle, thus, making the subject aware of what the contraction and relaxation of the same muscle feels like. The goal is to relax a certain muscle without the previously generated tension. During stress-relaxation work, you should start with stress instances first, then finish the sessions just focusing on relaxation.

The order to follow for relaxing muscles for this technique is: muscles of the left arm, then the right arm, then muscles of the left leg, then the right, continuing with the abdominals, the pectorals, the muscles in the shoulders and finally those in the neck.

It is recommended that the progression be performed in sessions exclusively for a single muscle group to progressively conquer the others. This process takes months. Sessions can be for 15 minutes.

Autogenic training:

This training focuses on muscle sensations. These are mental exercises that aim to bring a sensation of heaviness and body heat to the athlete. Heaviness is related to lack of muscle tension and heat with increased blood flow in the body. These two sensations are worked on using autogenic methods. Said training is composed of three components. The first component has six points to take into account:

- 1)** The heaviness in the arms and legs should start with the dominant leg and arm.
- 2)** The same goes with the heat sensation, it must start with the dominant arm and leg.
- 3)** For the sensation of heat in the chest area, one must mentally imagine a decreased heart rate.
- 4)** Breathing must be slow and relaxed.
- 5)** Heat sensation in the area of the solar plexus (first lumbar vertebra)
- 6)** In the forehead, the athlete must feel a sense of freshness.

The use of imagination is part of the second component of autogenic training. While the subject imagines herself in a state of relaxation, at the same time she must try and feel heaviness and body heat.

The third factor in autogenic training refers to the use of specific topics. This means that the mind is used to indicate to the muscle that it is relaxed.

Meditation:

In this technique the athlete aims, through meditation, to focus her attention on a single thought. This is the oldest practice that is in use.

One of the most used resources to improve relaxation levels is transcendental meditation in mantra. Other meditative resources include mandalas, nadam and the pranayama. When practicing these, the athlete must sit in a comfortable position and focus on deep breathing in conjunction with the sound of the mantra.

Davis et al. (1995) recommend the practice of Tai Chi (meditation used in China) stating that this practice reduces levels of anxiety comparable to those of low intensity physical exercise.

It is understood that meditation reduces levels of anxiety, stress and muscle tension, as a consequence, this indirectly generates improvements in athletic performance.

Biofeedback techniques

The human being has the ability to voluntarily control autonomic nervous system functions. The biofeedback technique pursues that objective. For example, the autonomic nervous system controls, among other things, heart rate, and thus the intention is for the athlete to learn how to control her heart rate and, therefore the autonomous system.

To put this technique into practice, different instruments for measuring physiological variables must be used. These instruments record variables such as temperature, heart rate, muscle tension and brain waves. The aim is to measure these variables in order to verify whether they are being controlled through biofeedback.

Controlling negative thoughts

Ongoing negative thoughts will cause high levels of stress for an athlete. Using the techniques we have been discussing, it is possible to reduce the flow of negative thoughts.

Self-reinforcement

In this case the athlete must identify, when they are competing, something produces well-being and represents personal achievement. They must not identify that the competition can make them feel bad.

Focus of attention

Focusing attention on the abilities put in place to win against opponents or collaborate with teammates. Also, there must be a focus on self-confidence.

How the athlete interprets environmental stimuli

Next, different points will be presented to take into account based on how the athlete interprets their environment and performs, as a result of the stimuli, assessments of the situations to be resolved.

Perceived stress

In this case it refers to stimuli that come from the environment and how they are interpreted by the athlete. Those stimuli that are not of direct importance will not be taken into account since they do not generate considerable levels of stress. The stimuli that is relevant are those that will put the athlete in a situation of mastery. A characteristic of a high performance athlete is the ability to differentiate between relevant and irrelevant stimuli. Coping techniques are used if relevant stimuli is detected.

Evaluation of damage

Refers to the moment in which the athlete experiences some variable related to damage. This could be an injury, a mistake regarding the use of a mental resource.

Evaluation of threat

Here the subject cannot understand how events related to the competition will develop. It is related to state anxiety. Common thoughts could include: 'What happens if the athlete scores a goal?' A potential threat is interpreted by the athlete. Experienced athletes do not tend to generate these kind of thoughts.

Evaluation of challenge

When the athlete is able to face a certain situation, she experiences feelings of well-being and positive feelings. Risky situations generate feelings of pleasure for some athletes, which ends up generating less stress.

The post-coping process

In this case, the athlete can face a stressful situation, or use their coping strategies to overcome a moment of stress or, not use coping strategies and

remain in a continual stressful situation. Added to this, the athlete evaluates the strategies used in the case that they did face a situation and verifies if they were effective or not.

If the strategies used to face the situation are a success, this generates feelings of well-being for the athlete.

Summary

As can be seen in this module, different coping strategies can be used by athletes. They can be learned by themselves, as a product of the experience gained throughout the competition. These strategies are also taught by the club's coaches and psychologists, if the staff includes these professionals.

Coping is accompanied by techniques to enhance coping capacity. Each technique utilizes a different methodology but they all have the same purpose: to reduce an athlete's levels of anxiety and stress in order to enhance athletic performance.

References

- Anshel, M. H., Williams, L. R. T., & Hodge, K. (1997). Cross-cultural and gender differences on coping style in sport. *International Journal of Sport Psychology*, 28, 141-156.
- Beuter, A., & Duda, J. L. (1985). Analysis of the arousal/motor performance relationship in children using movement Kinematics. *Journal of Sport Psychology*, 7, 229-243.
- Carver, C. S., Scheier, M. E., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Craft, L. L., Magyar, T. M., Becker, B. J., & Feltz, D. L. (2003). The relationship between the Competitive State Anxiety Inventory-2 and sport performance: A meta-analysis. *Journal of Sport and Exercise Psychology*, 25, 444-465.
- Endler, N. S., Parker, J. D. A., Bagby, R. M., Cox, B. J. (1991). *Journal of Personality and Social Psychology*, 60, 919-926.
- Fletcher, D., & Hanton, S. (2003). Sources of organizational stress in elite sport performances. *The Sport Psychologist*, 17, 175-195.
- Hammermeister, J., & Burton, D. (2004). Gender differences in coping with endurance sport stress: Are men from Mars and women from Venus? *Journal of Sport Behavior*, 27, 148-164.
- Hanton, S., & Jones, G. (1999). The acquisition and development of cognitive skills and strategies: I. Making the butterflies fly in formation. *The Sport Psychologist*, 13, 1-21.
- Jones, M. V. (2003). Controlling emotions in sports. *The Sport Psychologist*, 17, 471-486.
- Martens, R., Vealey, R. S., & Burton, D. (1990). *Competitive anxiety in sport*. Champaign, IL: Human Kinetics.
- Lazarus, R. S. (2000). How emotions influence performance in competitive sports. *The Sport Psychologist*, 14, 229-252.
- Miguel-Tobal, J.J., & Casado, M.I. (1999). Ansiedad: Aspectos básicos y de intervención. In E.G. Fernández-Abascal, & F. Palmero (Eds.): *Emociones y Salud* (pp. 91-142). Barcelona: Editorial Ariel, S.A.
- Mellelieu, S. D. (2003). Mood matters: But how much? A comment on Lane and Terry (2000). *Journal of Applied Sport Psychology*, 15, 99-114.

Park, J. K. (2000). Coping strategies used by Korean national athletes. *The Sport Psychologist*, 14, 63-80.

Selye, H. (1983). The stress concept: Past, present, and future. In C. L. Cooper (Ed.), *Stress research* (pp. 1-20). New York: John Wiley & Sons.

Yerkes, R. M., & Dodson, J. D. (1908). The relationship of strength of stimulus to rapidity of habit formation. *Journal of Comparative Neurology and Psychology*, 18, 459-482.