

## CHAPTER TWENTY-THREE

### **Adaptation, Stress, and Coping in Sport**

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Adaptation, which was mentioned within the domain of stress and coping research by Lazarus (1991), refers to the way in which people change according to the world that they live in. Within the context of stress, adaptation can be defined as the way a person reacts to and copes with stresses that change across the lifespan. Lazarus argued that it is not possible to examine constructs such as stress and coping without viewing how people adapt in their lives. As such, it was argued that understanding and considering human thought is crucial. This argument shaped Lazarus' relational approach to measuring stress and coping. In this chapter, I outline the relational approach to stress and coping, which is the dominant theoretical framework in the sport literature (Nicholls, Perry, & Calmeiro, 2014). I also consider sport specific research in regards to stressors, appraisals, qualitative coping research, and quantitative research. The chapter is concluded with ideas regarding how the field of stress and coping can be advanced.

#### **The Relational Approach to Stress and Coping**

According to Lazarus (1999), defining stress has been a very contentious issue within the psychology literature for many years. Aldwin (2007) defined stress as “the quality of experience, produced through a person-environment transaction, that, through either over arousal or under-arousal results in psychological or physiological distress” (Aldwin, p. 24). Stressors refer to the life events that “generate stress in those exposed to them” (Lazarus, 1991, p. 126).

The relational approach to stress combines both the stimuli and responses to a situation. Initially, researchers focused on life events that caused distressed reactions, referred to as a

1 stimulus approach (Lazarus, 1999). Researchers also examined how people responded to  
2 different demands, known as the response approach. Lazarus argued that the stimulus approaches  
3 do not allow researchers to assess how the person is affected by stress and the response  
4 approaches do not illustrate what has caused stress. Lazarus argued that separating these  
5 approaches makes little sense. As such, the relational approach to stress considers the person and  
6 how he or she reacts to stress and the environment that he or she is in. Lazarus referred to this as  
7 the person-environment relationship, in the sense it involves a comparison of the weight of the  
8 environment to harm, threaten, or challenge the person compared to the psychological demands  
9 of the person to manage such harm, threat, or challenges. Indeed, a person makes an evaluation  
10 of the situation he or she is in and the consequences of this situation for their personal goals and  
11 goal intentions, which is known as primary appraisal. According to Lazarus (1999), encounters  
12 can be appraised as being: (a) irrelevant and therefore having no implication for well-being, (b)  
13 benign-positive and therefore enhancing well-being, or (c) stressful, which refers to when a  
14 situation might cause harm. If a situation has been appraised as being stressful the individual will  
15 appraise either a harm/loss (e.g., damage that has already occurred), threat (e.g., concerns about  
16 losses in the future), or challenge (e.g., when a person focuses on the gains that might arise from  
17 a stressful situation). Individuals will also evaluate what they can do to manage stressful  
18 encounters and the possible outcome of different coping options, which is known as secondary  
19 appraisal (Lazarus, 1999). Secondary appraisal is not coping per se, but an evaluation of the  
20 coping options available.

21 Coping has been defined as “constantly changing cognitive and behavioral efforts to  
22 manage specific external and/or internal demands that are appraised as taxing or exceeding the  
23 resources of the person” (Lazarus & Folkman, 1984, p. 141). Lazarus and Folkman classified

1 coping within either the problem- or emotion-focused dimension. Problem-focused coping refers  
2 to strategies to manage or alter the problem that is causing stress. Alternatively, emotion-focused  
3 coping involves all coping strategies that regulate emotional responses to stress. Compas,  
4 Connor-Smith, Compas, Wadsworth, Harding Thomsen, and Saltzman (2001) provided another  
5 classification of coping, and classified coping strategies within three higher-order dimensions.  
6 These are known as: (a) task-oriented, (b) distraction-oriented, (c) and disengagement-oriented  
7 dimensions of coping. Task-oriented coping refers to strategies that the athlete engages in order  
8 to change or master elements of the stressful situation (Gaudreau & Blondin, 2004). Distraction-  
9 oriented coping strategies direct the attention of the athlete to unrelated aspects of what they are  
10 doing. Disengagement-oriented coping relate to athletes ceasing in their attempts to attain  
11 personal goals. Both problem- and emotion-focused, and task-, distraction-, and disengagement-  
12 oriented coping classifications are used widely in the sport psychology literature.

### 13 **Stressors in Sport**

14 Initially, researchers from the sport psychology literature were engaged in attempts to  
15 examine the stressors encountered by athletes. With a sample of U.S. Olympic wrestlers, Gould,  
16 Eklund, and Jackson (1993) reported that these athletes experienced a vast number of stressors  
17 via interviews. There were similar findings among professional Australian Rules football players  
18 (Noblet & Gifford, 2002) and professional rugby league players (Anshel, 2001). These scholars  
19 reported that the stressors encountered related to errors, opponents, referees, and experiencing  
20 pain. More recent research, utilizing longitudinal diary designs, revealed that although athletes  
21 may experience a variety of stressors, a small number of stressors occurred much more  
22 frequently. Nicholls, Holt, Polman, and James (2005), who used a daily diary methodology, over  
23 a 31-day period, among a sample of 11 Welsh international adolescent golfers found that four

1 stressors (physical errors, mental errors, opponents playing well, and the weather conditions)  
2 comprised over 75% of all stressors reported across the 31 days of the study. Furthermore, the  
3 players reported more stressors during the times that coincided with the most important  
4 competition. The finding that few stressors are experienced frequently by athletes has been  
5 reported by other scholars. Nicholls, Holt, Polman, and Bloomfield (2006), for example, reported  
6 that the most frequently cited stressors in their sample of professional rugby union players were  
7 injuries, mental errors, and physical errors, which accounted for 44% of all stressors reported.  
8 Furthermore, Nicholls, Jones, Polman, and Borkoles (2009) found physical errors, mental errors,  
9 and injuries accounted for 70% of all reported stressors. The results of the longitudinal studies  
10 infer that athletes will experience a small number of stressors that recur over time.

### 11 **Appraisal in Sport**

12 Uphill and Jones (2007) explored how different appraisals generated diverse emotional  
13 responses among 12 international athletes. These authors found that different appraisals  
14 generated a range of both positively (e.g., happiness, pride, and joy) and negatively toned (e.g.,  
15 anger, anxiety, and guilt) emotions among these athletes. However, the authors did not report the  
16 type of primary appraisal. That is, Uphill and Jones did not state whether the appraisals in their  
17 study were harm, threat, challenge, or benefit. Once such study that examined whether stressors  
18 were appraised as being harm/loss, threatening, or a challenge was by Didymus and Fletcher  
19 (2012). These authors found that the same stressors could be appraised as a threat, harm/loss, or  
20 a challenge in different situations. Most of the organisational stressors were reported as a threat,  
21 but the same stressors could be appraised differently across different scenarios.

22 Thatcher and Day (2008) qualitatively explored the underlying properties of stress  
23 appraisals, originally proposed by Lazarus and Folkman (1984), among a sample of

1 trampolinists. The underlying properties of stress appraisals include novelty (i.e., situations that  
2 have not been experienced before), predictability (i.e., expectancies no longer met), event  
3 uncertainty (i.e., whether a particular even will occur), imminence (i.e., anticipation before event  
4 occurs), duration (i.e., length of event), temporal uncertainty (i.e., when the event will occur),  
5 ambiguity (i.e., when information in the event needed for an appraisal is unclear), and timing of  
6 events in relation to life-cycle (i.e., events occurring at same time as other stressful events).  
7 Thatcher and Day provided support for these appraisals and also identified two additional  
8 situational properties of appraisals, self and other comparison (i.e., performing better than  
9 opponent) and inadequate preparation (i.e., not preparing correctly).

10         According to Lazarus (1999), appraisals are thought to shape the emotional responses of  
11 athletes. Nicholls, Levy, Jones, Rengamani, and Polman (2011) examined the emotions  
12 generated after appraisals of loss<sup>1</sup> and gain.<sup>2</sup> Eleven professional rugby union players were  
13 interviewed regarding stressful encounters that had been appraised as losses and encounters that  
14 had been appraised as gains. Interestingly, encounters that were appraised by the players as  
15 losses were more likely to generate unpleasant emotions (e.g., anxiety or anger), whereas gain  
16 appraisals were more likely to generate pleasant emotions (e.g., happiness and hope).

17         In addition to appraisals being related to psychological well-being through generating  
18 different emotions (e.g., Nicholls et al., 2011), other research has found that appraisals are  
19 related to performance. Moore, Vine, Wilson, and Freeman (2012) examined the relationship  
20 between threat and challenge appraisals with performance. Similar to Nicholls et al., challenge  
21 appraisals were associated with more pleasant emotions. Individuals in the challenge group also  
22 performed more successfully than those in the threat group on a putting performance task. From

1 an applied perspective, teaching athletes to appraise stressful events as challenging has the  
2 potential to generate pleasant emotions and maximise sport performance.

### 3 **Coping in Sport**

4         The number of coping papers in the sport psychology literature has increased  
5 significantly over recent years. A systematic review by Nicholls and Polman (2007) revealed that  
6 between 1988 and 2004 there were 64 papers published on coping among athletes. A search on  
7 SportDiscus in December 2013 revealed that from January 2005 to December 2013 there were  
8 130 papers published on coping, which utilized qualitative and quantitative methods. With  
9 regards to qualitative coping research, scholars attempted to explore the experiences of how  
10 athletes coped with stress.

### 11 **Qualitative Research**

12         One of the first papers to qualitatively explore coping was by Gould, Eklund, and Jackson  
13 (1993) who interviewed U.S. wrestlers regarding their experiences of coping during the 1988  
14 Olympic Games. They found that the wrestlers used a variety of coping strategies that were  
15 classified as thought control (e.g., blocking distractions), task focus strategies (e.g., concentrating  
16 on goals), behavioural based strategies (e.g., following routine), and emotional control strategies  
17 (e.g., visualisation). This was an important study in the sport literature, because the authors  
18 examined a construct that had tended to only to be explored in mainstream psychology literature.  
19 As such, it paved the way for qualitative research in the sport psychology literature, although it  
20 was several years before the influx of qualitative coping research began.

21         Scholars from the sport psychology literature, who conduct qualitative research, have  
22 tended to describe how athletes in different sports cope with stress. For example, Holt and Hogg  
23 (2002) explored how female soccer players coped with stress during preparations for the 1999

1 World Cup finals. The soccer players used a variety of coping strategies such re-appraisal (e.g.,  
2 changing how a situation is evaluated, such as “it is not the end of the world if I lose today, I  
3 have many more competitions”), seeking support from friends and family, and blocking negative  
4 thoughts. Another study that examined coping was by Park (2000), who interviewed 180 Korean  
5 athletes regarding their experiences of coping during sport. Park classified coping within seven  
6 dimensions: substance abuse, prayer, social support, hobbies, relaxation, training, and strategies  
7 in training. Giacobbi, Foore, and Weinberg (2004) interviewed recreational golfers regarding  
8 their experiences of coping and classified coping as emotion-focused coping, avoidance coping,  
9 golf course strategies, off course efforts, relaxation techniques, and cognitive coping. These  
10 studies have been particularly important for allowing researchers to understand how athletes  
11 cope with stress. However, research findings indicate that there are many commonalities  
12 regarding how athletes who participate in different sports cope. In order to progress the literature,  
13 researchers then started to examine the effectiveness of coping using qualitative methodologies.

14 The purpose of coping is to alleviate stress, so when coping is effective stress will be low,  
15 but when coping is ineffective stress levels will be high (Lazarus, 1999). Nicholls, Holt, and  
16 Polman (2005) interviewed 18 Irish international adolescent golfers regarding their coping  
17 effectiveness experiences in competitive golf. These authors found that effective coping  
18 experiences were associated with control, and in particular cognitive, behavioural, and emotional  
19 control. Each element of control was linked to particular strategies. The golfers appeared to  
20 obtain cognitive control by engaging in strategies such as blocking negative thoughts and  
21 positive self-talk. Behavioural control was achieved by engaging in a pre-shot routine, and  
22 emotional control was realised through strategies such as breathing exercises and seeking on  
23 course support from a caddie. Conversely, ineffective coping experiences were associated with

1 the golfers being unable to exert any control. Coping strategies that were deemed ineffective  
2 included the golfers trying too hard, making routine changes, dwelling on negative thoughts and  
3 speeding up their play. There were also instances in which players did not attempt to cope.

4 In a follow up to this study, Nicholls (2007) longitudinally assessed coping effectiveness  
5 among a sample of five Scottish international adolescent golfers to ascertain whether the  
6 effectiveness of coping strategies fluctuated. The paper by Nicholls et al. (2005) inferred that  
7 certain coping strategies are effective, whereas other strategies were ineffective. However,  
8 Lazarus (1999) suggested that there is no such thing as an effective or ineffective coping  
9 strategy. The most accurate way to assess fluctuations in coping effectiveness is to assess it  
10 longitudinally. Interestingly, Nicholls found that a coping strategy could be both effective and  
11 ineffective for the same player on different days, when coping with same stressor, and even  
12 within the same competition. For example, blocking negative thoughts was reported as being  
13 both an effective and ineffective coping strategy for managing opponent stressors. Holt, Berg,  
14 and Tamminen (2007) reported that players coped more effectively when the coping strategies  
15 they used were the same as those that they anticipated using. The older and more experienced  
16 players reported that they coped more effectively than the younger and inexperienced players. As  
17 such, it appears that the effectiveness of coping may fluctuate and one factor that might influence  
18 this is whether an athlete copes the same way he or she anticipated. Maximizing coping  
19 effectiveness appears to be crucial to performance. Nieuwenhuys, Vos, Pijpstra, and Bakker  
20 (2011) reported that in athletes' good competitions, the ratio of successful coping strategies was  
21 higher, in comparison to bad competitions. Coping was also perceived to be more effective in the  
22 athletes' good competitions.



1           Researchers have also explored coping qualitatively in different circumstances that  
2 athletes encounter. Carson and Polman (2010) interviewed professional rugby players regarding  
3 their use of coping when injured. The rugby players reported using coping strategies such as  
4 physical preparation, psychological preparation, and seeking social support before returning to  
5 competition after an anterior cruciate ligament injury. After returning to competition they used a  
6 variety of problem-focused, social support, and managing fears coping strategies. In a somewhat  
7 related study, Levy, Polman, Nicholls, and Marchant (2009) found that in order for athletes to  
8 cope with the stressors associated with being on a pre-scribed rehabilitation program, they coped  
9 in combination and used strategies such as seeking advice and wishful thinking. Finn and  
10 McKenna (2010) interviewed coaches regarding their perceptions of the factors that determine  
11 whether an athlete will make the transition from academy to first team. The coaches believed that  
12 meaning-focused coping (e.g., coping after an unfavorable outcome to generate positive  
13 emotions, maintain coping efforts, or re-evaluate initial appraisals) was an important strategy in  
14 helping athletes make the transition from an academy to a first team. It could be inferred from  
15 these studies that under different circumstances, different coping strategies will be more effective  
16 than others. This supports Lazarus' (1999) contention that coping is situation specific.

17           Qualitative research techniques have also been used to examine how athletes of different  
18 ages in an F.A. Premier League Academy cope (Reeves, Nicholls, & Mckenna, 2009). The  
19 middle adolescents (15-18 years) seemed to have a greater coping repertoire than the early  
20 adolescents. (12-14 years). These differences in coping might have been due to learning  
21 experiences. Tamminen and Holt (2012) reported that learning how to cope was reflected in the  
22 athletes' experiences, through trial and error, reflective practice, and the outcomes of coping.  
23 The development and therefore adaptation of coping was enhanced when the athletes reflected

1 on the situations they had been in. It appeared that both parents and coaches influenced  
2 adaptations in coping.

### 3 **Quantitative Research**

4 Similar to the evolvement in qualitative research, scholars conducting quantitative  
5 research have moved beyond reporting how athletes who participate in different sports cope.  
6 Nicholls, Polman, Levy, Taylor, and Cobley (2007), for example, explored gender, sport type,  
7 and skill level differences in coping. These authors found differences in relation to gender, sport  
8 type, and skill level differences among the 749 athletes.

9 Lazarus (1999) argued that coping is a process that changes across different situations  
10 and even within the same situation. To this end, some researchers have explored how coping  
11 responses change across different competitions. Crocker and Isaak (1997) examined coping  
12 during training and competitions among a sample of 25 regional level swimmers, reporting that  
13 the swimmers changed how they coped in competitions, but not in training. Louvet, Gaudreau,  
14 Menaut, Genty, and Deneuve (2007) examined coping across different soccer matches among a  
15 sample of 107 players. Interestingly, mean level effects suggested that the athletes did not change  
16 how they coped. However, the low-to moderate rank-order stability revealed that some athletes  
17 did change how they coped across different competitions. The majority of athletes did not  
18 change how they coped, but there are sub-groups who did change how they coped. In a study  
19 with 329 referees, Louvet, Gaudreau, Menaut, Genty, and Deneuve (2009) reported that coping  
20 changed for some of the referees across the season, but for others coping remained stable. This  
21 finding therefore provides some support for both process and trait conceptualizations of coping.  
22 Most did not alter in their use of problem-focused coping. There were two subgroups, however,  
23 that increased or decreased their use of this strategy. Nicolas and Jebrane (2009) examined how

1 coping changed across a six month study with a sample of 34 athletes. Coping strategies  
2 appeared to change across the six month study. However, defense mechanisms were consistent  
3 throughout the study and across time. Overall, how coping is measured influences the  
4 conclusions that researchers come to. However, it appears that there are fluctuations in coping,  
5 although for the majority of athletes coping remains stable if researchers measure low-to-  
6 medium rank order stability as opposed to mean level effects. Nevertheless, those who change  
7 the way the cope provide evidence of adapting to stressful encounters.

8         In addition to researchers assessing how coping may change across competitions, and  
9 therefore adaptation, scholars have also assessed the influence of maturation on coping. Compas  
10 et al. (2001) theorized that coping is influenced by biological, emotional, cognitive, and social  
11 maturity. In order to test this hypothesis, Nicholls, Polman, Morley, and Taylor (2009) examined  
12 the relationship between coping and biological maturity among 527 adolescent athletes. There  
13 were pubertal status group and chronological age differences in coping and coping effectiveness.  
14 Male athletes reported that mental imagery, relaxation, logical analysis, and venting emotions  
15 corresponded to what they did to cope more than females. In a follow up study, Nicholls, Perry,  
16 Jones, Morley, and Carson (2013) examined the relationship between coping and cognitive-  
17 social maturity. In total, 245 adolescent athletes completed measures of coping, coping  
18 effectiveness, and cognitive social maturity. The results indicated that coping was associated  
19 with cognitive maturity. In particular, conscientiousness was related positively to task-oriented  
20 coping, but negatively with disengagement-oriented coping.

## 21 **Moving the Field Forward**

22         Participating in sport can be stressful and athletes can appraise situations differently. It  
23 appears that some athletes may even appraise the same stressors differently too (Nicholls &

1 Levy, in press). Coping is an adaptation strategy that enables athletes to manage stressors  
2 throughout their life. Research has illustrated how people adapt to stress, with Nicholls and  
3 colleagues (Nicholls et al., 2009; 2013) inferring that athletes of different maturity levels  
4 reporting different coping strategies. In order for the literature to progress, researchers could  
5 continue examining factors that are related to coping and coping effectiveness. Exploring factors  
6 such as maturation and how athletes cope in different contexts, such as when they are injured or  
7 trying to progress from academy to first teams could make important contributions to the  
8 literature. Understanding more about the factors that influence coping will enable researchers to  
9 develop more effective interventions. Furthermore, utilizing different methodologies to assess  
10 coping may facilitate a deeper understanding of this construct. For example, the dominant  
11 methodology in the qualitative coping literature is interviews. There are many other methods that  
12 could be used such as think aloud protocols, audio diaries, and auto ethnographies. The  
13 quantitative research in coping features mainly questionnaires. Given that coping is mainly a  
14 cognitive structure, an element of self-report is necessary, researchers could use other markers to  
15 support coping data such as biological markers (i.e., cortisol, blood pressure, or heart-rate).

1 Footnotes

2

3 <sup>1</sup> Harm/loss and threat appraisals can be collectively referred to as loss appraisals. Harm/loss  
4 relates to damage that has already occurred, whereas threat refers to future damage.

5 <sup>2</sup> Challenge and benefit appraisals can be referred to as gain appraisals, with challenge referring  
6 to anticipated gains and benefit relating to gains that have already occurred.

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