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Chapter 29

Psychological Stress and Performance

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Chapter Overview

Psychological stress is inherent in sport, particularly at the higher levels of competition, and has implications for individuals' well-being and performance. Athletes, coaches, officials, and parents alike are influential stakeholders in sport and each of these groups of individuals are likely to experience stress at some point during their own or others' sport careers. Psychological stress is an umbrella term that refers to many concepts that are each interrelated and idiosyncratic. This makes stress a complex area to learn about. This chapter will focus on some of the most widely studied components and outcomes of stress (i.e., stressors, appraising, coping, and well-being) and their relationships with performance to offer an introductory text that encourages further reading. Theoretical perspectives of stress are covered briefly to offer frameworks from which stress can be understood. Exercises are offered at regular intervals throughout the chapter to facilitate transference of readers' knowledge. The chapter closes with implications for practitioners, national governing bodies, and researchers, and with concluding comments that consolidate important points from the chapter.

Psychological Stress and Performance

Theoretical Perspectives

Psychology based theories help us to understand cognition and behavior. Theories also offer frameworks that facilitate understanding of how concepts are related and act as a basis for the development, exploration, and testing of research questions. Many theories of psychological stress exist. For example, research on stress in sport was historically framed by stimulus (e.g., Hardy et al., 1996) or response (e.g., Tenenbaum et al., 2003) based theories that conceive stress as an independent or dependent variable respectively. Stimulus based approaches stem from physics and engineering (e.g., Hinkle, 1974) and suggest that stressors are environmental stimuli that exert a demand on an individual (Hardy et al., 1996). Response based theories, however, focus on the ways that individuals react to stimuli and have origins in Cannon's work on the fight or flight response (Cannon, 1914) and Selye's first writings about his general adaptation syndrome (e.g., Selye, 1936).

Despite their popularity in early stress research, many difficulties associated with and confusion surrounding stimulus and response-based theories of stress have been documented (see e.g., Hardy et al., 1996). It is based on these difficulties that more recent research in sport (e.g., Didymus & Backhouse, 2020; Harwood et al., 2019; Potts et al., 2019) has endorsed transactional and relational conceptualizations of stress (Lazarus, 1999, 2000; Lazarus & Folkman, 1984). Such conceptualizations suggest that stress resides neither in the environment (i.e., as a stimulus) nor in the person (i.e., as a response) but in the relationship between the two. Thus, transactional theories of stress consider both person factors (e.g., beliefs, values, goals, personality) and situation factors (e.g., the duration and timing of stressors) to be influential during stress transactions (see, for a review, Didymus & Jones, 2021). These theories suggest that stress transactions begin with the juncture of a person and a stressor, that individuals engage in cognitive-evaluative processes (i.e., appraising) to ascribe meaning to stressors, and that attempts to cope are made using cognitive and or behavioral efforts (Lazarus, 1999, 2000; Lazarus & Folkman, 1984). Transactional stress theories are contextual in that they seek to understand people in specific contexts and focus on what is happening at that time cognitively, emotionally, and behaviorally. Thus, such theories view stress and emotions as closely entwined and suggest that stress has implications for performance and well-being.

Two theories of psychological stress that are based on a transactional conceptualization and have been applied widely in sport are transactional stress theory (Lazarus & Folkman, 1984) and the cognitive-motivational-relational theory (CMRT; Lazarus, 1999). From these perspectives, stress is defined as a "relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 19). In sport, researchers have used transactional theories to explore the ways that individuals appraise stressors (e.g., Didymus, 2017; Didymus & Fletcher, 2012, 2017a; Ritchie et al., 2017); the ways in which athletes, coaches, and teammates work together to manage demands (e.g., Doron & Bourbousson, 2017; Staff et al., 2017a); and various outcomes of stress transactions (e.g., burnout, Hassmén et al., 2019; psychological well-being, Norris et al., 2017). Many other theories of psychological stress exist alongside those already mentioned. For example, Jones and colleagues (Jones et al., 2009) developed and later revised (Meijen et al., 2020) the theory of challenge and threat states in athletes (TCTSA-R) to explain how athletes anticipate motivated performance situations (e.g., sport competitions). This theory focuses on physiological and emotional responses to stress and how sport performance might be affected. Other theories that focus more specifically on one or two components of stress also exist. For example, appraisal theories (e.g., Roseman & Smith, 2001) help to explain why and how emotions are elicited by evaluations of stressors and theories of dyadic coping (e.g., Staff et al., 2017a, 2017b, 2020) provide insight to the ways in which people work together to manage stressors. We

adopt a transactional perspective throughout this chapter and hang the subsequent sections on elements of stress transactions that have been most widely researched: stressors, appraising, coping, and well-being.

Stressors

Stressors are the starting point of stress transactions and can be defined as “environmental demands (i.e., stimuli) encountered by an individual” (Lazarus, 1999, p. 329). Stressors can be acute or chronic. Acute stressors are experienced in the short-term and are time-limited (e.g., an official making a “bad” call; Anshel et al., 2013). In contrast, chronic stressors are longer term demands (e.g., injury, finances) that can lead to burnout and ill-being (e.g., Goodger et al., 2007). While stressors can sometimes be detrimental for well-being and performance, they can also have an energizing effect for some individuals in certain circumstances. Indeed, division one American college coaches reported that stressors can enhance focus and motivation (Frey, 2007). It seems, therefore, that stressors can have either a detrimental or a positive effect on individuals’ performance and well-being depending on how they are appraised. The situational properties that underpin stressors (e.g., novelty, ambiguity; see Didymus, 2017; Didymus & Fletcher, 2012, 2017a; Lazarus & Folkman, 1984) are likely to influence how stressors are appraised as well as their implications for well-being and performance.

Stressors that have been identified in the sport psychology literature span a range of issues and are frequently reported in a three-category system: competitive, organizational, and personal. Stressors that relate to each of these categories are known to be relevant to coaches and athletes but significantly less is known about the stressors that parents and officials encounter. There is also documented confusion about the best way(s) to categorize stressors (Norris et al., 2017). This confusion stems from the lack of conceptual clarity and exclusivity of the aforementioned three category system, which makes it difficult to clearly show whether a stressor is, for example, purely competitive, organizational, or personal. Nonetheless, this chapter focuses on the three categories of stressors that are most widely reported in the sport psychology literature while drawing attention to other categorization systems that exist (see e.g., Norris et al., 2017).

Competitive Stressors

Competitive stressors are demands associated directly with sport performance (e.g., pressure to perform; see Table 29.1). A noteworthy competitive stressor is an individual’s own performance (e.g., Mellalieu et al., 2009). For athletes, this may relate to reaching athletic potential during training and competition while officials, for example, may be more concerned with making appropriate decisions in a timely manner. The performance of others is a pertinent competitive stressor for coaches (e.g., Didymus, 2017). This may be because coaches’ function well when they believe they have control over a situation and, whilst they can prepare athletes for performance, they have little control once athletes are out to compete.

A noteworthy competitive stressor that is specific to officials is the lack of respect they often receive from players, coaches, and spectators (Anshel et al., 2013). This is partly due to the knowledge that winning teams rarely mention the quality of officiating while losing teams or players can attribute at least part of the loss to the referee. Officials also experience stressors related to the possible threats of physical or verbal harm (Anshel et al., 2013; Stewart et al., 2004). Within the sport parent literature, research examining stressors remains relatively limited. In the research that does exist, parents have indicated that the competitive stressors they experience include watching their children compete when they are upset or losing, which can be difficult because they feel for their child and share their

disappointment (e.g., Harwood & Knight, 2009). Physical and nutritional preparation of their child, their child's psychological state before a competition, behavior of children during competition, gamesmanship, cheating, and other parents making negative remarks about their child are other competitive stressors that have been reported by sport parents (Harwood & Knight, 2009).

Organizational Stressors

Organizational stressors refer to demands that are related primarily and/or directly to the sport organization (e.g., the training environment, Fletcher et al., 2006). Scheduling is an organizational stressor that is experienced by athletes, coaches, officials, and parents alike. For student-athletes, schedule clashes between training and university have been reported as an important stressor (Cosh & Tully, 2014). These clashes may force athletes to prioritize either sport or education, and students may face academic failure for not attending courses or may be concerned that they have missed learning opportunities by being absent. Athletes also experience organizational stressors relating to relationships and interpersonal demands, athletic career, and coaching style, for example (e.g., Hayward et al., 2017; Mellalieu et al., 2009). The coach being perceived as both a stressor and a support mechanism for athletes is consistently reported in the literature with findings showing that coaching style is important (Cosh & Tully, 2014). Changes in verbal and non-verbal communication (e.g., negative change in tone, changes in coach behavior) can influence the training or match environment (Thelwell et al., 2017).

The sport environment is also a known stressor for coaches (e.g., Potts et al., 2019) because coaches strive to create settings that ensure players can perform at their best. Other commonly encountered organizational stressors for coaches include relationships with the board, finances, and team factors (e.g., Didymus, 2017; Frey, 2007). For officials, organizational stressors such as the presence of a supervisor or being evaluated by superiors are pertinent (Anshel & Weinberg, 1995; Anshel et al., 2013). For parents, organizational stressors can relate to lack of communication and information from the organization and or national governing body (NGB; Harwood et al., 2019). Parents can feel frustrated when attending international tournaments because travel and accommodation can be difficult to organize due to a lack of timely information (e.g., regarding competition timings, athlete schedules) from the organization (Harwood & Knight, 2009).

Personal Stressors

Personal stressors relate to demands associated with personal life outside of sport (e.g., maintaining significant relationships). A common and important stressor for all individuals in sport is work-life balance (see Table 29.1). Particularly at the higher levels of performance, it can be difficult to balance the needs of sport with family life (e.g., McKay et al., 2008). Relationships with members of their social support network can be a stressor for both athletes and coaches (e.g., McKay et al., 2008; Norris et al., 2020). For example, a lack of support from coaches, peers, significant others, family, and friends can leave the athlete or coach feeling isolated. For coaches and officials, the volume of traveling, preparation, and unsociable working hours involved with sport can result in conflict between sport and other demands (e.g., Stynes et al., 2017). Literature that has focused on parents' stressors has illustrated that the time commitment required for sport can impede occupational, social, and family life (Kirk et al., 1997). This can be problematic if parents' time and attention becomes centered on one child-athlete at the expense of other siblings (Harwood et al., 2019), and can be exasperated by the financial commitment often required to support sport participation.

Learning Exercise One

List and categorize (i.e., as a competitive, organizational, or personal) all of the stressors that you can remember experiencing in sport. It might be helpful to think of a particular event (e.g., an important fixture) or situation that you remember well.

Moderators and Mediators of Stressors

Researchers have often focused on factors that influence (i.e., moderators) or explain (i.e., mediators) the relationship between individuals and the stressors they experience. For example, competition and skill level can influence the types of stressors that athletes experience. Elite athletes tend to experience and recall more stressors associated with the sport organization than with competitive performance (Mellalieu et al., 2009) and higher skilled participants are thought to encounter more organizational stressors than lower skilled participants (Hanton et al., 2005). Athletes' mental toughness is thought to be associated with stress intensity, perceived control, coping, and coping effectiveness (Kaiseler et al., 2009) whilst the Big Five dimensions of personality (i.e., neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience) have been shown to influence coping selection, coping effectiveness, stress intensity, and perceived control of stressors among athletes (Kaiseler et al., 2012a).

With reference to coaches, both men and women collegiate tennis coaches who reported more coaching stressors and were lower in the personality trait of hardiness experienced higher levels of perceived stress (Kelley et al., 1999). Further, women coaches were found to have a higher tendency than men to experience coaching stressors. In a different study with university coaches, the level of burnout (e.g., intensity, frequency, and duration of high-pressure situations) among men and women coaches did not significantly differ but male coaches did tend to burnout more frequently than women (Malinauskas et al., 2010). Thus, whilst women coaches may encounter more stressors, men may be more likely to experience burnout (for more discussion on burnout, see Chapter 28; Madigan, 2021). Demographic and contractual factors and job-related characteristics can influence coaches' perceptions of stress (Knight et al., 2013).



Photo by [football wife](#) from [Pexels](#)

Table 29.1

Examples of Competitive, Organizational, and Personal Stressors

Competitive	Organizational	Personal
Athlete coachability (C)	Administration (C)	Career development (A, C)
Attitude of players (C, O)	Athletic career (A)	Child education (P)
Behavior of opponents (P)	Coach (A, P)	Family issues (A)
Behavior of child (P)	Coaching style (A)	Finances (A, C, P)
Commitment of players (C)	Conflict with others (A, C)	Ineffective social support (A, C)
Confrontation/abuse (O)	Environment (A, C, P)	Interpersonal conflict (A, C, O)
Decision making (C, O)	Finances (A, C, P)	Sibling inequality and guilt (P)
Expectations from others (A, C, O)	Governing Body (A, C, P)	Time constraints (C, P)
Fitness concerns (A, O)	Lack of communication (A, C, P)	Work-life balance (A, C, O, P)
Fear of failure (O)	Lack of recognition (O)	
Fear of physical harm (O)	Lack of respect from organization (O)	
Injury (A, C, O, P)	Leadership (A, C)	
Interference from other parents (P)	Organization (A, C, P)	
Lack of respect from coaches, players, and spectators (O)	Overload (A, C)	
Lack of skills in helping child manage emotions (P)	Performance development (A, C, P)	
Managing own emotions (A, C, P)	Presence of media (A, C, O)	
Match environment (A, C, P)	Schedule (A, C, O, P)	
Match outcome (A, C, P)	Self-presentation (A, C)	
Performance of player (A, C, P)	Team factors (A, C)	
Performance of self (A, C, O)	Training environment (A, C, P)	
Poor preparation (A, C, P)	Travel (A, C, P)	
Poor refereeing (A, C, P)	Uncertainty around signing and release (P)	
Presence of supervisor (O)		
Pressure game (A, C, O)		
Professionalism (C)		
Recovery (P)		
Rivalry (A, P)		

Note. Letters in brackets correspond to the performer(s) who may experience the stressor. A = athlete, C = coach, O = official, P = parent. Stressors included in this table are collated from the literature discussed throughout the chapter. The table is not exhaustive.

Appraising

Now that the array of stressors that athletes, coaches, parents, and officials may experience has been explored, it is timely to consider how individuals may evaluate, or appraise, these stressors. Appraising is an intra-individual cognitive mechanism that bridges the gap between stressors and coping and lies at “the theoretical heart of psychological stress” (Lazarus, 1999, p. 61). When viewed from a transactional perspective, appraising is conceived as an evaluation of situations that is influenced by an individual’s beliefs, values, and/or goals (Lazarus & Folkman, 1984). At this juncture it is worth briefly discussing the distinction between the terms *appraising* and *appraisal* (cf. Lazarus, 1999). Appraising refers to the act of making an evaluation whereas appraisal refers to the evaluative product of appraising. Unfortunately, this distinction is rarely made in the sport psychology literature where it is more commonplace to use *appraisal* as an umbrella term for all aspects of appraising and appraisal.

Transactional stress theory (Lazarus & Folkman, 1984) suggests that appraising involves two different but related processes: primary and secondary appraising. Although these two processes are interdependent, they are best discussed separately because of their distinct contents (Lazarus, 1999). Before moving to a deeper discussion of primary and secondary appraising, it is pertinent to note that the terms *primary* and *secondary* were not intended by Lazarusian works to infer that one process occurs before the other or that secondary appraising is of less importance. The qualifying adjectives (i.e., primary, secondary) are reflective of the contents of each type of appraising rather than of their importance or temporal occurrence during stress transactions (Lazarus, 1999). It has been noted elsewhere (e.g., Didymus & Jones, 2021) that it is not entirely clear when the two types of appraising occur during stress transactions; how they interact with each other; or whether any given appraisal is purely primary, secondary, or a combination of the two.

Primary Appraising

Primary appraising refers to evaluations of whether an encounter is relevant or significant to an individual’s beliefs, values, goal commitments, and situational intentions. These types of appraisals are influenced by goal relevance, goal congruence, and type of ego involvement (Lazarus, 1999). Lazarus and Folkman (1984) suggested three types of primary appraising: *irrelevant*, *benign-positive*, and *stressful* (see Table 29.2). If an encounter is appraised as stressful, there are four possible transactional alternatives that may be experienced: *challenge*, *benefit*, *threat*, and *harm/loss* (Lazarus & Folkman, 1984; see Table 29.3). These transactional alternatives are important because they represent the essence of appraisals and have implications for individuals’ health and well-being. For example, an individual who typically appraises stressful situations as a challenge is more likely to have higher morale, quality of functioning, and somatic health compared to an individual who typically experiences threat appraisals (Lazarus, 1999). Challenge appraisals are likely to increase quality of functioning, for example, because they are related to elevated confidence, reduced emotional strain, and an increased capability to draw on coping resources when managing stressful encounters.

Table 29.2
Types of Primary Appraising

Type of Primary Appraising	Operationalization
Irrelevant	The stressor is evaluated as having no implications for well-being (i.e., there is no potential for loss or gain).
Benign-positive	The stressor is evaluated as having the potential to enhance well-being.
Stressful	The stressor is evaluated as being significant for well-being (i.e., there is potential for loss or gain).

Table 29.3
Transactional Alternatives During Stressful Appraisals

Transactional Alternative	Operationalization
Challenge	When personal significance is in proportion to the available coping resources and gain may result from the situation.
Benefit	When the individual perceives that enhancement of their well-being has already occurred.
Threat	When personal significance outweighs available coping resources and damage to the individual’s well-being is anticipated.
Harm/loss	When the individual perceives that damage to their well-being has already occurred.

Although threat and challenge appraisals differ in their cognitive (judgment of potential harm or loss versus mastery or gain) and affective (negative versus positive emotions) components, researchers (e.g., Lazarus, 1999; Lazarus & Folkman, 1984; Moore et al., 2019) have long asserted that they can occur simultaneously. Thus, transactional alternatives are not mutually exclusive but are discrete, related constructs that are essentially different forms of a common process (Lazarus, 1999; Lazarus & Folkman, 1984). The transactional alternatives experienced by an individual can evolve in any given encounter. For example, transference from threat to challenge may occur if the person-environment relationship changes for the better. Take the example of a lacrosse player who did not make her team’s starting line-up but is subbed into play during the first quarter of the game. This athlete may have initially experienced a threat appraisal but, after joining the field of play, her appraisal may shift to one of challenge (i.e., she feels enthusiastic toward playing) or even benefit (i.e., enhancement of her well-being occurred when she was moved from the bench).

Sport psychology research on primary appraising has highlighted associations between this process and other psychological constructs. For example, relationships have been suggested between situational properties of stressors (e.g., duration, timing) and appraisals (e.g., Didymus & Fletcher, 2012) and between appraisals and anxiety (Quested et al., 2012). Threat appraisals have been shown to mediate relationships between satisfaction of basic psychological needs (i.e., autonomy, competence, relatedness) and anxiety intensity (Quested et al., 2012) and between trait anxiety and burnout (Gomes et al., 2017). Some sport psychology researchers (e.g., Nicholls et al., 2012) have suggested that primary appraisals consistently influence the coping strategies employed but doing so undermines the foundations of transactional conceptualizations of stress. This is because each stress transaction is context dependent and, thus, common or consistent appraisal-coping associations cannot be expected

(Didymus & Fletcher, 2014). Indeed, appraising, coping, and the associations between them are idiosyncratic and will change according to the person-environment relationship in any given situation.

Researchers have also examined the relationships between primary appraisals and outcomes of stress transactions. For example, threat and challenge appraisals have been shown to: partially mediate relationships between mastery-based goals and well-being (Adie et al., 2008), be linked with performance (Calmeiro et al., 2010; Didymus & Fletcher, 2017a, 2017b), mediate relationships between organizational stressors and psychological need experiences (Bartholomew et al., 2017), and influence affective responses (Rumbold et al., 2020). All of the aforementioned research has been conducted with athletes. Coaches, parents, and officials have received scant academic attention and the limited research that does exist is exploratory and largely descriptive in nature. One study (Thatcher, 2005) that has examined rugby league officials' primary appraisals found that the same stressor was perceived as a threat by some individuals and as a challenge by others. In a study that examined coaches' primary appraisals, Didymus (2017) found that Olympic and international level coaches predominantly experienced challenge and threat appraisals when evaluating stressors. The limited research that has focused on sport parents' appraisals highlights that stressors were predominantly appraised as harm or challenge, that harm appraisals increased negative emotions, and that challenge appraisals increased positive emotions (Harwood et al., 2019).

Learning Exercise Two

From the list of stressors that you created during exercise one, choose one or two that you can remember clearly. Write briefly about how you appraised the stressor(s). For example, did you perceive it to be a challenge, a benefit, a threat, or a harm/loss?

Secondary Appraising

If a stressful appraisal is made during primary appraising (i.e., one of challenge, benefit, threat, or harm/loss), the individual will engage in secondary appraising. Secondary appraising is defined as an evaluation of available coping resources in relation to the stressor encountered (Lazarus & Folkman, 1984). In short, this is when the individual decides what might and can be done to cope with a situation. Secondary appraising involves a complex evaluation of the degree of control that an individual has over the stressor, the coping resources that are available, the likelihood of various coping options effectively managing the situation, and the possibility that one can employ a particular strategy (or combination of) effectively (Lazarus & Folkman, 1984).

When compared to the literature on primary appraising, notably less work in sport has examined secondary appraising, perhaps because of the lack of accurate measures of such and the difficulty of assessing a process that often occurs below waking consciousness. Researchers have, however, reported a significant negative correlation between perceived stressor intensity and perceived stressor control (Nicholls et al., 2009), suggesting that some stressors may be perceived as more controllable than others (e.g., Reeves et al., 2011) and that challenge and threat appraisals are related to more and less controllability respectively (e.g., Nicholls et al., 2012; Williams & Cumming, 2012). Person factors (e.g., culture, personality, gender) have also been linked to perceptions of control (e.g., Kaiseler et al., 2012a, 2012b; Puente-Díaz & Anshel, 2005) and control has been shown to mediate the relationship between primary appraisals and basic psychological needs (Bartholomew et al., 2017). As was shown to be the case with sport psychology literature on primary appraising, research that focused on secondary appraising has been almost exclusively conducted with athletes. Thus, substantial gaps in understanding relating to how coaches, parents, and officials evaluate stressors are evident.

Coping

From a transactional perspective, coping is defined as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p. 141). Understanding coping in sport is important because it can have implications for athletes’, coaches’, parents’, and officials’ performance and or well-being (Gould et al., 2006; Kelley et al., 1999; Stewart et al., 2004). Historically, researchers have examined coping from either a trait- or state- perspective (see Krohne, 2001). The trait perspective suggests that individuals cope with stressors in a somewhat consistent manner (e.g., Voight, 2009). Research that adopts a state perspective, however, is more common in sport psychology (e.g., Olusoga et al., 2010), is more closely aligned to transactional conceptualizations of stress, and emphasizes the ways in which coping changes according to the context.

Researchers have explored coping in sport by identifying the specific strategies that individuals use and the wider categories of coping that differ according to the adaptive functions and or intentions of coping efforts (Didymus, 2017; Didymus & Fletcher, 2014, 2017a; Skinner & Zimmer-Gembeck, 2007). Lazarus and Folkman's (1984) categorizations of coping (i.e., problem-focused and emotion-focused) have informed much of the research in sport. However, this two-factor structure may oversimplify the roles of coping during stress transactions (Skinner et al., 2003). As a result, researchers have proposed additional categorizations relating to avoidance, approach, and appraisal (see Table 29.4). These five categories are the most widely used among sport psychology researchers to date (Norris et al., 2017).

Table 29.4
Categories of Coping, Definitions of Each Category, and Exemplar Coping Strategies

Category of Coping	Definition	Exemplar Coping Strategies
Problem-focused	“...change the troubled person-environment relationship by acting on the environment or oneself” (Lazarus, 1993, p. 238).	Problem-solving, information seeking
Emotion-focused	Change either the way the person-environment relationship is attended to or the meaning of the stressor for an individual (Lazarus, 1993).	Self-blame, venting, wishful thinking
Avoidance-focused	Actions and decisions to disengage oneself from a stressful situation (Anshel, 2001).	Blocking, distraction, behavioral avoidance
Approach-focused	Actions and decisions to attend to the stressor for the purpose of reducing or managing the unpleasant experience (Anshel, 2001).	Action planning, goal-setting
Appraisal-focused	Efforts to re-evaluate the stressor (e.g., Thelwell et al., 2010).	Looking into the future, keeping things in perspective

The majority of sport coping research has focused on the strategies that athletes and coaches use to manage stressors. Research in these areas that adopts a transactional perspective has highlighted that athletes and coaches use a plethora of strategies related to each of the aforementioned categories, and that these strategies are deployed either in isolation or in combination. The multitude of individual coping options that athletes and coaches use are too extensive to review in a chapter of this nature, but

commonly reported coping strategies include planning, increased concentration, thought stopping, relaxation, minimization, venting of emotions, and self-talk (e.g., Didymus, 2017, Didymus & Fletcher, 2014; Potts et al., 2019). With reference to parents, some researchers (e.g., Lienhart et al., 2020) have reported that parents detach from sport and seek information to cope with stressors. Others (e.g., Gould et al., 2006) have shown that parents who do not cope effectively and, thus, experience strain, are more likely to exhibit negative behaviors (e.g., criticizing their child) and that these behaviors could have a detrimental impact on their child's performance (Lienhart et al., 2020). Research with officials has highlighted that these individuals may also detach from sport and or avoid situations to manage stressors in high-performance sport (Neil et al., 2013). Coping among all individuals in sport can be either adaptive (e.g., facilitative of performance; Nicholls et al., 2016) or maladaptive (e.g., facilitative of burnout; Madigan et al., 2020) and, as a result, can have implications for their own and others' performance and well-being.

The degree to which a coping strategy or combination of strategies is effective is tied to the perceived success of coping in alleviating stress. Effective coping contributes, for example, to sustained motivation (Crocker et al., 2015) and enhanced psychological well-being (Nicholls et al., 2016), while ineffective coping is associated with decreased performance satisfaction (Britton et al., 2019), burnout (Madigan et al., 2020), and lower levels of psychological well-being (Nicholls et al., 2016). Some researchers (e.g., Kaiseler et al., 2009) have suggested that certain strategies (problem-focused) may be more effective than others (emotion-focused or avoidance) when managing stressors in sport. However, from a transactional perspective, coping strategies are considered multi-dimensional and multi-functional and, thus, are neither inherently effective nor ineffective (Lazarus, 1999). For example, an athlete who avoids sharing information about an injury with her coach to maintain a place on the team may perceive this strategy as effective in the short term yet coping in this way may have detrimental consequences for her performance, health, and well-being. Levy et al. (2009) explored one coach's coping strategies and their perceived effectiveness over a 28-day period. They identified that problem-focused strategies were used more frequently than emotion-focused and avoidance-focused strategies. The effectiveness of such strategies declined as the volume of stressors increased. Nicholls et al. (2009) reported that athletes employed different coping strategies on training days when compared to competition days and that coping effectiveness was higher on competition days.

Learning Exercise Three

Write down some of the stressors that you have experienced in sport or life over the past seven days. How did you cope with these? List the coping strategies that you used and categorize them according to the five categories presented in Table 29.4. Rate each strategy on a scale of one to ten according to how effective it was in helping you to cope with the stressor(s) in question (1 = completely ineffective, 10 = completely effective).

Although the study of coping among individuals has offered considerable understanding of and practical implications for those operating in sport, researchers have suggested that significant others can influence an individual's coping resources and efforts (Neely et al., 2017; Staff et al., 2017a). This means that coping should be considered and researched from an interpersonal perspective to understand how people (e.g., athletes and coaches) may work together to manage the stressors they experience.

Interpersonal Coping

Researchers in general psychology have used various terms to refer to the interpersonal nature of coping (e.g., dyadic coping, Bodenmann, 1997; communal coping, Lyons et al., 1998). *Dyadic coping* generally refers to the process whereby “sport based dyads (e.g., coach-athlete) manage stressors together” (Staff et al., 2020, p. 2) whereas *communal coping* relates to the pooling of coping resources and the efforts of several individuals (e.g., teams or communities) to confront adversity (Lyons et al., 1998). It is important to understand how relationships (e.g., between athletes, coaches, and parents) influence coping because stress transactions usually involve at least one other person (Doron & Bourbousson, 2017; Staff et al., 2017a).

To facilitate understanding of coping among dyads and groups, researchers have proposed various theories of interpersonal coping. The Communal Coping Model (CCM; Lyons et al., 1998), for example, recognizes that two or more individuals can perceive a stressor as *our* problem, instead of *my* or *your* problem, to enhance individuals’ well-being. Use of communal coping depends on three factors:

1. One individual in the group must hold a communal coping orientation (e.g., the belief that working together to manage a stressor is valuable).
2. At least one individual must communicate the stressor within the group.
3. Individuals must collaboratively construct coping strategies to try and reduce the consequences of a stressor.

Developed with and for athletes and coaches, Staff et al. (2020) proposed a theory of dyadic coping in coach-athlete relationships. This theory focuses on dyadic, rather than communal, coping and is underpinned by the systemic-transactional model of stress (Bodenmann, 1995). The theory states that, when athletes and coaches communicate a stressor within their dyad, each partner individually appraises that stressor and the available coping options. If they perceive the stressor to be meaningful to their goals, dyadic coping strategies are used to manage the stressor together. These strategies are then appraised individually by both members of the dyad, which leads to positive or negative outcomes (e.g., on performance and well-being) and influences the dyad’s future coping efforts.

In addition to the recognition and application of general psychology theories of interpersonal coping in sport, the development of a sport specific theory of dyadic coping appears promising for the future of sport coping research. Indeed, this theory provides researchers with an initial understanding of the ways in which dyads and groups manage stressors together. They also pave the way for researchers to move beyond a focus on coping at an individual level, to develop a more sophisticated understanding of how coping occurs between people, and, importantly, to explore the influence of interpersonal coping on well-being and performance.

Implications of Psychological Stress for Well-being and Performance

This chapter so far has highlighted how individuals experience, appraise, and cope with stressors. In addition to considering these components of stress transactions, it is important to explore the implications of psychological stress for well-being and performance. Indeed, well-being should be of paramount importance to researchers, organizations, and NGBs because of the consequences that impaired well-being has for individuals, particularly for his or her health (Steptoe et al., 2015). From a sport policy and high-performance management perspective, it is important to put well-being at the heart of work with performers. A number of organizations have indeed done so. For example, The English Institute of Sport (2017), High Performance Sport New Zealand (2019), and the Australian Institute of Sport (2019) have each highlighted athlete well-being as a key priority area. The Australian

Institute of Sport suggests that “a successful high-performance culture includes athletes finding the right balance between well-being, engagement in activities outside of training and competition, and the requirements of elite sport” (2019, n.p.). A notable shift in the culture of high-performance sport is created when NGBs put well-being high on their list of priorities and when all members of the sport system truly buy into the prioritization of performer well-being.

Defining well-being is a notable challenge. Indeed, there is little consensus among the academic community about how best to do so. From a positive psychology standpoint, well-being can be defined as “a broad category of phenomena that includes people’s emotional responses, domain satisfactions, and global judgements of life satisfaction” (Diener et al., 1999, p. 277). Aside from striving to define what well-being is, researchers (e.g., Dodge et al., 2012) have focused on discovering and exploring various dimensions of well-being. For example, in seminal research, Ryff (1989) and Ryff and Keyes (1995) proposed a multidimensional conceptualization that captures the depth and breadth of well-being and focuses on optimal psychological functioning (see Table 29.5).

Table 29.5
Characteristics of Well-Being and Their Definitions

Characteristic of Well-being	Definition
Autonomy	An individual’s perceptions of control and the independence and regulation of his or her thoughts or behaviors.
Environmental mastery	An individual’s ability to choose or create environments that are suited to them, control an array of complex external activities, and make effective use of surrounding opportunities.
Personal growth	An individual’s emphasis on continual growth and development whilst remaining open to new experiences and challenges.
Relationships with others	An individual’s ability to have strong feelings of empathy and affection towards others, to develop deep friendships, and to warm to and care for others.
Purpose in life	An individual’s goals, ambitions, and sense of direction that contribute to a meaningful life.
Self-acceptance	An individual’s positive attitude towards the self, understanding and acceptance of multiple aspects of the self (both positive and negative), and positivity about his or her past life.

In more recent work, Robertson and Cooper (2011) referred to two dimensions of well-being: hedonia and eudemonia. Hedonia relates to an individual’s happiness, subjective well-being, and positive emotions whereas eudemonia refers to purposeful aspects of life such as self-acceptance, personal growth, and environmental mastery. Aligned with this two-factor conceptualization, Diener (2000) likened well-being to life satisfaction (global judgements on one’s life), low levels of negative affect (experiencing few unpleasant emotions and moods), high levels of positive affect (experiencing many pleasant emotions and moods), and satisfaction with important domains (e.g., work satisfaction).

Learning Exercise Four

Think about and make notes on a recent competition or training session. Using the information in Table 29.5, write down the parts of that experience that enhanced or reduced your well-being. For example, did you have opportunities to develop your skills (i.e., personal growth) or maintain relationships with others?

Sport psychology researchers have typically focused on the study of well-being among athletes. The findings of this research highlight that impaired well-being can have a detrimental impact on performance (e.g., Stenling et al., 2015). It is also evident that policy makers, program managers, and NGBs should develop an athlete-centered approach to promote and protect well-being (e.g., Kihl et al., 2007). This requires consideration of athletes' rights and developmental needs, rather than simply focusing on athletic performance and achievements (Wicker et al., 2020). By adopting an athlete-centered approach, well-being and health can be enhanced (Kerr et al., 2017), which can in turn encourage better performance (Kihl et al., 2007).

With reference to coaches, their experiences of stress can lead to emotional exhaustion, depersonalization, cynicism, and a reduced sense of personal accomplishment (Kelley et al., 1999). Each of these factors can contribute to burnout (e.g., Goodger et al., 2007), which can have negative ramifications for coaches' well-being and performance. To prevent negative consequences of stress and facilitate coach well-being, researchers have highlighted three conditions that are needed (see, for a review, Norris et al., 2017): basic psychological needs satisfaction, lack of basic psychological needs thwarting, and self-determined motivation (e.g., Alcaraz et al., 2015; Stebbings et al., 2012). Furthermore, greater job security, opportunities for professional development, and lower work-life conflict have been linked with improved well-being among coaches (Stebbing et al., 2012).

As alluded to in previous sections of this chapter, officials are performers in their own right and their contribution is essential if sport, particularly that of a competitive nature, is to operate in a fair manner. Despite the important role that officials play, very few studies have explored well-being among this population. In one of the only studies in this area, Dell et al. (2016) reported that receiving abuse within a game was one of the main reasons why football referees considered leaving the profession. This was due to the impact of abuse on officials' well-being and, consequently, their motivation to remain engaged.

The fundamental role that parents play in children's engagement with sport can compromise their own health and well-being, particularly when extensive commitments are required to support their child's journey through sport (Misener, 2020). Parents may, however, benefit in some ways from the social connectedness that sport environments offer (Misener, 2020). Research on sport parents' well-being is limited despite the important role they play, particularly in the youth sport experience (Inoue et al., 2020). It is important that practitioners work with parents (Harwood et al., 2019) to offer support, to indirectly support athletes and coaches, and to foster well-being among all parties.

There are a number of ways in which a performer's well-being can be enhanced. The following is not an exhaustive list but provides insight to some of the approaches that can be used to develop well-being among those who are involved with sport:

- Goal setting to facilitate long-term goal attainment (Smith et al., 2011).
- Resilience building to facilitate management of a variety of stressors (Fletcher & Sakar, 2012).

- Enhancing a sense of role and position security among athletes and coaches (Stebbing et al., 2012).
- Building self-determined motivation (e.g., Alcaraz et al., 2015).
- Building relationships to develop a strong social support network (Norris et al., 2020).

Applied Implications

The content presented in this chapter highlights a number of implications for practitioners, researchers, and sport stakeholders (e.g., athletes, coaches, officials, parents, NGBs). For example, while stressors are an important element of stress transactions, it is likely that appraising and coping have more bearing on well-being and performance. Indeed, different appraisals (e.g., threat and challenge) have varied implications for performance and well-being and coping can be either adaptive or maladaptive. Thus, stress management interventions that focus on the ways in which individuals perceive demands (e.g., via re-appraisal training) and or on the optimization of coping efforts (e.g., via psychoeducation or simulation training) should be prioritized during applied work. Relationships are important during stress transactions and can act as either a buffer or exasperator of stress. This means that practitioners should work with multiple stakeholders (e.g., coaches, athletes, parents) when aiming to optimize stress transactions. Better understanding of the interpersonal nature of stress will enable the design and delivery of interventions that support performance, personal development, well-being, and relationship satisfaction among various members of sport communities. It is clear that performance should not be the sole or central focus of NGB or sport organization policy. Rather, performer and stakeholder well-being should be at the fore to ensure that the benefits of sport are realized. Policy makers, program managers, and NGBs will need to take a person-centered approach (i.e., by having a genuine interest in and by listening to all who are involved in sport) to achieve a focus on well-being for those who work at and support the front lines of sport.

Future Research

While noteworthy understanding of various components, mediators, and moderators of stress transactions has been developed since the inception of research on stress in sport, many opportunities for future research still exist. For example, research with parents and officials is limited in many areas, including that on stressors, appraising, coping, and well-being. A similar point can be made about the literature with coaches, which remains underdeveloped when compared to that with athletes. Given that appraising lies at the heart of stress transactions and has important ramifications for coping, well-being, and performance, considerable further research is needed in this area. For example, it is not yet clear when primary and secondary appraising occur during stress transactions; how they interact with each other; or whether any given appraisal is purely primary, secondary, or a combination of the two. Further work on secondary appraising is needed with all stakeholders in sport. Explorations of the positive and negative outcomes of interpersonal coping are warranted, as are considerations of how best to capitalize on both individual and interpersonal coping resources. Examining the links between stress and well-being among athletes, coaches, officials, and parents will contribute to understanding that has relevance both within and outside of sport, and will offer insight to the benefits of sport for individuals and society. The majority of the aforementioned priorities for future research could be facilitated by more robust sport-specific measures of stress and well-being. Innovative qualitative approaches (e.g., diary methods, social network analysis, think aloud protocols) will be needed to develop depth of knowledge and understanding.

Conclusions

This chapter has offered a brief overview of theoretical perspectives of stress and has introduced stressors, appraising, coping, and well-being, and their links with performance. Athletes, coaches, and officials have each been considered performers in their own right and parents are regarded throughout the chapter as key stakeholders in sport. The chapter reports a myriad of stressors that can be experienced and highlights some of the commonalities and differences between stressors encountered by athletes, coaches, officials, and parents. The helpful or unhelpful implications that stress has for well-being and performance is likely to depend on how individuals appraise and cope with stressors. All elements of stress transactions should be considered from an interpersonal perspective that recognizes the complex networks of people who are involved in sport.

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