The Assessment and Examination of Organizational Stressors in Sport Performers

By

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ABSTRACT

Organizational stressors are prevalent within competitive sport participation and can elicit a number of undesirable consequences for sport performers who encounter them if they are not sufficiently addressed. It is, therefore, imperative that psychologists have evidence-based research that can inform their understanding of the organizational stressors that sport performers encounter, so that psychologists can, ultimately, help sport performers to address such stressors. To provide such research, the purpose of this thesis was to assess and examine the organizational stressors that sport performers encounter via a series of seven related studies. Following an introduction to the thesis, Chapter Two provides a literature review of the concepts, definitions, and theories of stress, and the psychometric issues evident in organizational stressor research. Chapter Three (Study One) reports a meta-interpretation of the studies that have identified the organizational stressors encountered by sport performers, and presents the findings as a taxonomic classification. This synthesis with taxonomy illustrates the large number and wide range of organizational stressors that sport performers encounter and provides the most accurate, comprehensive, and parsimonious classification of organizational stressors to date. In addition, the findings are valid, generalizable, and applicable to a large number of sport performers of various ages, genders, nationalities, sports, and standards. In the context of the thesis, Chapter Three is of primary importance in shaping and informing the research in the later chapters. For example, Chapter Four (Studies Two to Five) describes the development and validation of an Organizational Stressor Indicator for Sport Performers (OSI-SP), which is conceptually underpinned by the findings of Study One. In Chapter Four, Study Two reports the development of the indicator via the recruitment of an expert and usability panel to assess the content validity and applicability of an initial item pool. Study Three analyses the subsequent 96 items forwarded from Study Two with exploratory factor analyses (EFAs) and the results illustrate a five-factor structure (viz. Goals and Development, Logistics and Operations, Team and Culture, Coaching, Selection) and 33 items. Using confirmatory factor analyses (CFAs), Studies Four and Five provide support for this five-factor structure. Study Five also provides evidence for the concurrent validity of the indicator and its invariance across different groups. A main conclusion of Chapter Four is that the OSI-SP is a valid and reliable measure of a comprehensive range of organizational stressors that sport performers encounter. Using this indicator, a series of multivariate analyses of covariance (MANCOVAs) were conducted in Study Six to examine sport performer's individual demographic differences in organizational

stressors. This study is reported in Chapter Five and reveals that individual demographic differences do affect the dimensions of goals and development, logistics and operations, team and culture, coaching, and selection organizational stressors. Specifically, significant differences are evident between males and females; team, individual, and team and individual based sport performers; and individuals competing at national or international, regional or university, and county or club levels. Expanding the focus from stressors to the wider stress process, Chapter Six (Study Seven) reports an investigation of the moderating effect of coping on the relationship between organizational stressors encountered in competitive sport and the outcomes that individuals experience. Multiple regression in this study indicated the following main effects: the dimensions of many organizational stressors had a main effect on negative affect; problem-focused coping had a main effect on positive and negative affect; emotion-focused coping had a main effect on negative affect; and avoidance coping had an inverse main effect on positive affect. The moderated hierarchical regression analyses conducted in this study revealed one significant interaction between emotion-focused coping and the frequency and duration of stressors on intensity of stressors; and three significant interactions between avoidance coping and the frequency and duration of stressors on positive affect. These findings provide an insight into which coping styles buffer the impact of organizational stressors at different stages of the stress process. Following this final study, Chapter Eight provides a summary of the studies presented in this thesis; a discussion of the theoretical contributions, practical implications, strengths and limitations, and future research directions; and a conclusion. Overall, this programme of research provides a greater understanding of organizational stressors and their relationships with other constructs and further components of the stress process; therefore, advancing theoretical and scientific knowledge in this area. Practically, the findings presented in this thesis can be incorporated into stress management interventions to, ultimately, address the heightened prevalence of organizational stressors in competitive sport and, in doing so, negate the undesirable consequences that they can create.

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~ For Gags ~

“Two Arms and Two Legs”

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1

INTRODUCTION

1.1 THE PRESENCE OF STRESS IN SPORT

> I didn't expect it to be such a miserable grind. We've come out here [Cape Town] to the sunshine to kick-start our season and day after day my performance seems to be getting worse. It's intense. We're doing three or four sessions of training every day . . . and in all of them I am off the pace. Worse, I am really suffering. By the time I finish one thing, everyone else has moved onto the next. I am feeling a growing sense of hopelessness and isolation. I'm fighting it, I'm trying not to show it, but the sense that I'm failing is with me all the time . . . . I don't know if the others [fellow rowers] have noticed how bad it is . . . . Anyway, they'll be concentrating on themselves . . . . They're not looking at me, they're hoping Jurgen [the coach] is looking at them. (Redgrave, 2009, pp. 72-73)

This quote from Sir Steve Redgrave, five times Olympic gold medallist in Rowing, illustrates that individuals can be placed under considerable pressure and strain during their participation in competitive sport, particularly those competing at the highest levels. Jones and Hardy (1990) suggest that these pressures arise in the sport context because it contains many of the key ingredients for stress, such as the great rewards placed on success, the competitive focus, and high visibility. Therefore, to operate successfully in the sports arena, sport performers must be able to recognise demands in their surrounding environment and cope with them accordingly. Indeed, Patmore (1986) likens sport to an experiment and identifies being able to perform under stress as a critical component in determining outcomes:

> The technical skills of the contestants, if the experiment has been set up correctly, cancel each other out. The sport experiment is not concerned with the particular technical skills the subject has brought with him to the contest. His [technical] skill is not really an issue - although he fervently believes it is - since his fellow contestants also have it; they have been screened and selected very carefully indeed to ensure that their [technical] skill compares with his. The deciding factor is not his [technical] skill, but his ability to perform under stress. (p. 13)

1.2 STRESSORS IN COMPETITIVE SPORT

To perform effectively under stress and pressure in sport, individuals must first identify the demands (also known as stressors) that they are encountering. Stressors have been

classified into three main categories in competitive sport: personal (demands associated with "nonsporting" life events), competitive (demands associated with competitive performance), and organizational (demands associated with the organization within which an individual is operating) (Fletcher, Hanton, & Mellalieu, 2006; see also Fletcher & Hanton, 2003a, 2003b; Hanton, Fletcher, & Coughlan, 2005; Woodman & Hardy, 2001a). Examples of personal stressors include a sport performer's family and moving house, competitive stressors include the performer's opponents and his or her technical skill, and organizational stressors include travel to competition and the structure of training sessions. A considerable amount of research has been conducted on the stressors associated with competitive performance (see, for a review, Mellalieu, Hanton, & Fletcher, 2006), and work on personal stressors is beginning to emerge (Kihl, Richardson, & Campisi, 2008). Regarding organizational stressors, despite early calls for research (cf. Hardy & Jones, 1994; Hardy, Jones, & Gould, 1996; Jones, 1995b), these stressors have received somewhat of a belated recognition in sport psychology literature (see, for a review, Fletcher et al., 2006). Chapters Two and Three provide further insight into organizational stressor research.

1.21 ORGANIZATIONAL STRESSORS IN COMPETITIVE SPORT

The belated recognition of organizational stressors in sport is surprising, particularly in view of Hanton et al.'s (2005) finding that elite performers experience (and recall) more organizational than competitive stressors. This prevalence of organizational stressors in the sport context is also reflected in sport psychology practitioners' reports, which illustrate the frequent occurrence of organizational stress-related consultations with sport performers (Jones, 2002; Males, 2006; Terry, Hardy, Jones, & Rodgers, 1997; Timson, 2006).

One explanation for the belated research on organizational stress is that organizational stressors have only become noticeable or emerged as sports and the organizations located within it have evolved. In a discussion on the growth of sport in the new millennium, Fletcher et al. (2006) have described sport as a universal phenomenon that has become embedded in the fabric of modern society. On a similar note, McKay, Miller, Lawrence, and Rowe (2001) observe that:

> Sport is probably the most universal aspect of popular culture. It crosses languages and countries to captivate spectators and participants, as both a professional business and a pastime . . . . Sport has long been a crucial component of the government of everyday life. (p. 1)

This growth of sport has required sport organizations to rapidly evolve so that they can support such expansion. For example, Fletcher et al. (2006) note that sport organizations have been transformed into environments that have intricate systems of hierarchies, constantly changing frontiers, and multiple constituents that have overlapping relationships with other organizations. Furthermore, Levermore (2011) states how the evolution of sports organizations has shifted their nature and priorities, changed their relations with a variety of state and non-state partners, and dramatically enhanced their reach. These transformations have created a complex social and organizational environment in sport organizations, which can, unfortunately, create numerous stressors for sport performers.

1.211 Organizational Stressor Examples in Sport

There are a number of examples that can illustrate sport performers encountering organizational stressors. Among other competitions, this summer has played host to the football competition Euro 2012 and the London 2012 Olympic Games. As a result, organizational stress is rife across the media, with examples including: the presence of heat during competition (BBC, 2012a), incorrect national anthems being played for teams (BBC, 2012b), equipment mistakes (BBC, 2012c), broken down buses on the way to Olympic trials (BBC, 2012d), disputes over selection policies (BBC, 2012e), and the media pressure and expectations placed on athletes and teams from the host nation of an Olympic Games (BBC, 2012f).

In addition to observing the above and other examples of organizational stressors unfold in the media on a daily basis, I have my own personal experiences of these stressors (highlighted in italics below). I would like to reflect on these experiences here, since they explain my initial interest in the area of organizational stress. I first arrived at Loughborough University in September 2005 to study for my degree and I also hoped to represent the University for hockey. Loughborough University fields five ladies hockey teams and after some *very short notice for selection trials*, I was placed into the second team. I was very pleased with this and had a very enjoyable and successful first half of the season. In the closing few weeks prior to the mid-season break, I was delighted to be recognised by the first team coach and asked to join them for training and also games in the Wednesday University league. However, unfortunately, the second half of the season told a very different story, since in the first week after the break I ruptured my anterior cruciate ligament, cartilage, and meniscus in my left knee. This *serious injury* meant that I had to undergo reconstructive

surgery with a subsequent nine months of rehabilitation. During this time, my family and I had to *finance all physiotherapy treatment and the operation itself*, since I was not fully on the first team squad, had no medical insurance, and the estimated time of waiting for the two operations on the NHS was in the region of 24 months (plus recovery time). In addition to this financial problem, I found it *very hard to remain part of the team culture* during the injury, since instead of attending regular training I had to complete isolated rehabilitation sessions.

After returning from this injury, I have represented the University for six years, captained them for three, and also played for and captained the English Universities team. There have certainly been many highs and lows during this period. One low in which I particularly remember the presence of organizational stressors was the British Universities Sports Association semi-finals in 2007. The hockey first team at Loughborough University had won these hockey championships for eleven consecutive years prior to this date. This brought *huge expectation on the squad* and unfortunately during those semi-finals we were knocked out of the competition by arch rivals University of Birmingham. The *spectator noise and disruption, media pressure, and knowledge that we had failed to meet expectations and maintain the University's reputation* following that game were unbearable and something that I hope to never experience again. Since this unforgettable day, we now have a performance programme for hockey which includes a full-time coach and daily training sessions. This requires interaction with a number of individuals who can create various organizational stressors, including *the coach, team mates, physiotherapists, and strength and conditioning staff.* Example stressors that I have experienced from such interactions include: *ineffective communication among team mates, physiotherapist and coach disagreement, and intense weights training leading to injuries.* The performance programme has also required us to *travel long distances* to play in the national league and occasionally *finance overnight accommodation*. Although these personal reflections of organizational stressors typically sound negative, it is important to acknowledge that I have experienced many more positive than negative events during my time representing Loughborough and I am extremely grateful for the support provided by my team mates, coach, and the University.

1.212 Undesirable Consequences of Organizational Stressors

A further rationale for my interest in organizational stressors is the undesirable consequences that these stressors can create if they are not sufficiently addressed. Indeed,

research has illustrated that if organizational stressors persist then sport performers may experience burnout (Meehan, Bull, Wood, & James, 2004; Raedeke & Smith, 2004), dissatisfaction (Noblet, Rodwell, & McWilliams, 2003), and negative emotions (Fletcher, Hanton, & Wagstaff, 2012). In addition, organizational stressors can impair preparation for and performance in major competitions (Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999) and substantially affect an individual's health and well-being (DiBartolo & Shaffer, 2002).

It is crucial that sport psychology researchers assess and examine organizational stressors, so that practitioners can incorporate such evidence-based research into their practice to help negate the undesirable consequences associated with organizational stressors in competitive sport. This partnership between research and practice is in accordance with definitions of sport psychology. Indeed, Gill and Williams (2008) define sport psychology as involving "the scientific study of human behaviour in sport and exercise as well as the practical application of that knowledge" (p. 7).

1.3 PURPOSE OF THE THESIS

To produce evidence-based research that can be incorporated into applied practice, the purpose of this thesis is to assess and examine the organizational stressors that sport performers encounter. Specifically, the thesis aims to (a) synthesise the research that has identified the organizational stressors encountered by sport performers and develop a taxonomic classification of the findings, (b) develop and validate a measure of organizational stressors for usage in the competitive sport context, (c) examine if the frequency, intensity, and duration of organizational stressors encountered vary as a function of a sport performer's individual demographic differences, and (d) investigate the moderating effects of coping on the relationship between organizational stressors and outcomes at different stages of the stress process.

1.4 STRUCTURE OF THE THESIS

The thesis comprises seven chapters, within which this introduction, a literature review, seven studies, and a summary, discussion, and conclusion are presented. The specific outline of the thesis is as follows:

Chapter Two reports a review of the literature surrounding the concepts, definitions, and theories of stress. This chapter also reviews the psychometric issues that are evident in organizational stressor research.

Chapter Three reports a synthesis of the studies that have identified the organizational stressors encountered by sport performers, and presents the findings as a taxonomic classification.

Chapter Four reports the development and validation of an indicator that can be used to assess the organizational stressors encountered by sport performers.

Chapter Five reports a study that used the indicator developed in Chapter Four to examine sport performer's individual demographic differences in organizational stressors.

Chapter Six reports a study that investigates the moderating effect of coping on the relationship between organizational stressors encountered in competitive sport and the outcomes that individuals may experience at different stages of the stress process.

Chapter Seven reports a summary of the studies in the thesis, a discussion, and overall conclusion.

2

LITERATURE REVIEW

This literature review is separated into two parts. Part One will provide a general review of the concepts, definitions, and theories of stress. As a result of the lack of a reliable and valid measure of a comprehensive range of organizational stressors that are encountered by sport performers (as identified in this chapter), Part Two will provide a specific review on a number of psychometric issues that need to be taken into consideration when developing such a measure.

2.1 PART ONE: CONCEPTS, DEFINITIONS, AND THEORIES OF STRESS

2.11 DIFFICULTIES IN THE CONCEPTUALISATION OF STRESS

The term stress has taken such a hold on society that it has become a regularly used household word and is likely to be around for years to come (Jones & Bright, 2001). This widespread use of the term has meant that a multitude of meanings have been attached to the word stress in our everyday language. A similar situation is evident in academic research, where the popularity of stress as a research topic has led to confusion over how to best conceptualise and operationalize the term. To provide an explanation for the multiple meanings that researchers have associated with the term stress, Cooper, Dewe, and O'Driscoll (2001) suggest that:

> This confusion over terminology is compounded by the broad application of the stress concept in medical, behavioral, and social science research over the past 50 to 60 years. Each discipline has investigated stress from its own unique perspective. (p. 2)

To expand on the multiple meanings of stress, the early approaches to research in this area have, broadly speaking, defined the term as a person's response, an environmental stimulus, or the result of an interaction between a person and the environment. A more contemporary approach to defining stress, which has evolved out of the shortcomings of the earlier approaches, is the transactional approach. This approach recognises that stress neither resides in the person or the environment separately, but instead in the conjunction between

the two. Section 2.12 will review each of these definitions and conceptualisations of stress, alongside their associated strengths and weaknesses. This expansion on each of the conceptualisations is fundamental at the start of the thesis, since the approach used to define stress can have an impact on research. Indeed, as Dewe, O'Driscoll, and Cooper (2010) note:

> These definitions [of stress as a stimulus, response, or interaction] now have a historical as well as empirical value, as they embody a sense of time, of why certain ideas prevailed and provide an understanding of why different research approaches have been adopted, why particular research questions have been asked, the knowledge that has accumulated, the debates that have emerged around the findings and questions about the future directions the study of work stress may take. (p. 3)

2.12 DEFINITIONS AND CONCEPTUALISATIONS OF STRESS

2.121 Stress as a Response

Sport can evoke a number of emotions in sport performers, evidenced by them making reference to feelings such as pressure, threat, anger, anxiety, and sadness. These emotional responses are often indicative of a troubled reaction to environmental stimuli (cf. Lazarus, 1999), which is the essence of the response-based approach to stress. This approach views stress as a dependant variable, and its origins are evident in medicine and physiology (Hinkle, 1973; Mason, 1975). The founder of the response-based approach to stress is Hans Seyle, who introduced the notion of stress-related illness in terms of the general adaptation system (GAS; Seyle, 1956). The GAS system suggests that stress is a non-specific response of a body to a presenting demand which occurs in three stages: alarm, resistance, and exhaustion. The alarm reaction occurs immediately following the presentation of a demand and the emergency "fight or flight" response is evident in this stage (Cannon, 1935). In the second stage, the stressor is resisted and, as a result, an adaption response occurs and homeostasis begins restoring balance and returning the body to a normal level of functioning. However, Seyle (1983) notes that adaptation to a demand does not always occur; instead, if an alarm reaction is too intense, frequent, or takes place over a long period, the energy required for the resistance stage becomes depleted and the exhaustion stage commences. In this final stage, if an individual no longer has the adaptation energy stores to fight a stressor, then serious illness can result.

The response-based approach has been adopted in sport psychology research, where scholars have typically examined sport performers' emotions, feelings, and thoughts

associated with participation in competitive sport (Fletcher et al., 2006; see, e.g., Fletcher, Hanton, & Wagstaff, 2012; Lazarus, 2000; Pensgaard & Duda, 2002). Despite the popularity of the response-based approach in sport psychology, some researchers have criticised it for being too simplistic (cf. Cooper et al., 2001; Fletcher et al., 2006), since an individual's response does not always follow the same pattern. Furthermore, the response-based approach does not consider the presence of the environmental factors that actually produce the stress response. Indeed, as Lazarus (1999) notes:

> This kind of reasoning [the response-based approach] is completely circular - it is, in other words, a tautology, in that it does not answer the question of what it is about the stimulus that produces the stress response. What is circular or tautological in its reasoning is that stress stimulus is defined mainly by the fact that there is a stress response, and the stress response is, in turn, defined by referring back to the stimulus that presumably brought it about in the first place. (p. 52)

2.122 Stress as a Stimulus

The aforementioned shortcomings of the response-based approach are partially addressed in the stimulus-based approach which, in essence, explores the environmental stimuli that can potentially create stress. The origins of this approach are found in physics and engineering (Mason, 1975), whereby stress is viewed as exerting a force on an organism that can induce a load reaction, distortion, and subsequent potential for damage if the organism's tolerance level is exceeded (Cooper et al., 2001). In accordance with this view, the stimulus-based approach has been likened to the aphorism "the straw that breaks the camel's back" (Cooper et al., 2001; Fletcher et al., 2006), since too many stressors can upset an individual's balance between coping and the total breakdown of coping behaviours. In the stimulus-based approach, stressors are viewed as the independent variable.

In sport psychology, researchers have adopted the stimulus-based approach to identify potential sources of strain for sport performers (Fletcher et al., 2006; see, e.g., Campbell & Jones, 2002; Fletcher & Hanton, 2003b; Fletcher, Hanton, Mellalieu, & Neil, 2012; Gould, Jackson, & Finch, 1993; Holt & Hogg, 2002; James & Collins, 1997; McKay, Niven, Lavallee, & White, 2008; Noblet & Gifford, 2002; Park, 2004). To avoid repetition, more information on research adopting this approach in sport psychology is presented in Chapter Three, where common stressor themes and patterns that sport performers encounter are identified. Notwithstanding this strength of the stimulus-based approach, research which

views stress as a stimulus does not account for individual differences (Lazarus, 1999). For example, two sport performers encountering the same stressor, such as an undesirable team atmosphere, may display different responses. For example, the stressor may trigger anger and dissatisfaction for one sport performer, whereas another may display hope and motivation to address the stressor.

It is clear from reviewing the stimulus and response-based approaches that, together, they can provide insight into the stressors that individuals encounter and the nature of a person's responses. However, without considering these components in relation to each other, conclusions of research adopting the stimulus or response-based approaches can only be speculative regarding the process of stress (Fletcher et al., 2006). Indeed, as Cooper et al. (2001) illustrates:

> Because stimulus-response definitions each focus on a single aspect of a relationship, it is only ever possible to conclude that an event has *the potential* to be stressful or that a response *may be* a stress response. (p. 10)

Therefore, to fully capture the dynamics of the stress process and make more definitive conclusions, the interaction between these two components needs to be examined.

2.123 Stress as an Interaction

The focus of the interaction-based approach to the conceptualisation of stress is, as the name suggests, the interaction between two components: a person and the environment (Appley & Trumbull, 1967). The term interaction is evident in the statistical literature (cf. Cohen, Cohen, West, & Aiken, 2003), where it refers to the combined effect of two (or more) independent variables (e.g., person, environment) on a dependant variable (e.g., cognitive-emotional reactions) (Lazarus, 1966; Lazarus & Folkman, 1984). It is important to note, however, that although person and environment variables are considered to maintain their distinctiveness and remain unchanged and independent during this interaction (Fletcher et al., 2006), they can also mutually affect one another (cf. Lazarus, 1981; Lazarus & Launier, 1978).

A number of sport psychology researchers have increasingly adopted the interaction-based approach to examine stress (Fletcher et al., 2006; see, e.g., Anshel, Kim, Kim, Chang, & Eom, 2001; Holt & Dunn, 2004; Jones, 1990; Kelley, 1994; Kelley, Eklund, & Ritter-Taylor, 1999; Martin, Kelley, & Dias, 1999; Martin, Kelley, & Eklund, 1999; Woodman &

Hardy, 2001a). Despite the widespread use of the interaction-based approach in sport psychology research, it has been criticised for only considering the static relationship between a person and environment. This narrow focus limits the ability to expose the causal pathways inherent in the relationship between a person and the environment (Cooper et al., 2001). As a result of this constraint, it is pivotal that researchers consider the on-going and dynamic transaction between a person and the environment, and the meaning that individuals construe from this relationship (Fletcher et al., 2006).

2.124 Stress as a Transaction and Relational Meaning

The transactional approach to stress examines the psychological mechanisms and processes, such as appraisal and coping, that underpin a stressful encounter (cf. Dewey & Bentley, 1949; Lazarus & Launier, 1978). There are three main unique features of the transactional approach to stress (Fletcher et al., 2006). First, this approach places importance on stress as an *on-going process* in which an individual transacts with their surrounding environment, makes appraisals of encounters with stressors, and attempts to cope with any resulting issues (Cooper et al., 2001). Second, stress is conceptualised in this approach as a *dynamic, cognitive state* that represents a disruption in homeostasis to which an individual must find a resolution to restore balance (Dewe, Cox, & Ferguson, 1993). Third, the transactional approach recognises *the recursive principle* that the environment, an individual, and his or her psychological reactions can each have a mutual effect on the other. Indeed, as Fletcher et al. (2006) explain:

> A transactional approach suggests that while environmental demands and personal characteristics combine to influence how sport performers might react to a situation; how they react will, through the processes of coping and adaptation, in turn, affect environmental conditions, personal resources, and future reactions. (p. 327)

The transactional conceptualisation of stress has received some recognition in sport psychology research (Fletcher et al., 2006; see, e.g., Anshel, Jamieson, & Raviv, 2001; Kaiseler, Polman, & Nicholls, 2009; Kaiseler, Polman, & Nicholls, 2012; Kim & Duda, 2003; Nicholls, Holt, Polman & James, 2005). By adopting the transactional approach to stress, researchers can examine the on-going stress process and begin to illuminate the causal pathways between an individual and their surrounding environment. However, to confirm or

refute proposed pathways, experimental and longitudinal research needs to be conducted in this area. Fletcher et al. (2006) have suggested that to further theory on the transactional approach, researchers should also consider the notion of relational meaning. The following quote by Lazarus (1999) explains what is meant by relational meaning and emphasises the benefits of studying this concept:

> The phrase relational meaning belongs to all of psychology, not just stress and emotion. It has the virtue of allowing us to understand why individual differences are ubiquitous in human thought, emotion, and action. Despite sharing much with other people and social groups, each of us also responds distinctively to the same environmental stimulus . . . . On the basis of our unique relationship with the environment, we react as individual persons who differ in our most important goals, beliefs, and personal resources, these psychological characteristics having been forged from the interaction of different biological origins and developmental experiences. (p. 13)

As the above quote illustrates, by examining relational meaning researchers can provide insight into why two individual's reactions to the same stressor may differ. To explain, Dewe et al. (2010) have suggested that an individual's relational meaning is captured through the process of appraisal; therefore, one performer may appraise that a particular environmental stressor is about to exceed resources and, as a result, threaten his or her well-being (Holroyd & Lazarus, 1982), whereas another may appraise that they have the necessary resources to cope with the same presenting stressor.

2.13 DEFINITIONS OF ORGANIZATIONAL STRESS CONCEPTS

In view of the various conceptualisations of stress, it is important to outline the definitions chosen to underpin and guide the present programme of research on organizational stress. In accordance with the transactional approach to stress, the following conceptual definitions are adopted (Fletcher et al., 2006, p. 329; see also, Cooper et al., 2001; Fletcher & Hanton, 2003a; Woodman & Hardy, 2001a):

> *Organizational stress* - "an on-going transaction between an individual and the environmental demands associated primarily and directly with the organization within which he or she is operating" (Fletcher et al., 2006, p. 329).

Organizational stressors - "environmental demands (i.e., stimuli) associated primarily and directly with the organization within which an individual is operating" (Fletcher et al., 2006, p. 329).

Organizational strain - "an individual's negative psychological, physical and behavioral responses to organizational stressors" (Fletcher et al., 2006, p. 329).

2.14 META-MODEL OF STRESS, EMOTIONS, AND PERFORMANCE

Theories are important in academic research for a number of reasons. To elaborate, a theory can help to guide and stimulate systematic inquiry (Popper, 1959), define boundaries to be supported or refuted (Cook & Campbell, 1979), and explain a certain set of observed phenomena in terms of a system of constructs and laws (Gall, Borg, & Gall, 1996). Furthermore, and perhaps of more importance to this programme of research, theory can provide a foundation to measurement (Dewe, 2000; Wacker, 2004).

In 2005, Fletcher and colleagues (Fletcher & Fletcher, 2005; Fletcher et al., 2006; Fletcher & Scott, 2010) recognised that sport psychologists' had a limited understanding of the relationships among organizational stressors, emotional responses, and athletic performance. As a result, they subsequently decided to synthesise pertinent mainstream and sport psychology theories and develop a meta-model of stress, emotions, and performance. Fletcher et al. (2006) explain that in this meta-model, the basic premise is that:

> Stressors arise from the environment the performer operates in, are mediated by the processes of perception, appraisal and coping, and, as a consequence, result in positive or negative responses, feeling states, and outcomes. This on-going process is moderated by various personal and situational characteristics. (p. 333)

As illustrated in Figure 2.1, the meta-model is divided into three main theoretical stages: (a) person-environment (P-E) fit, (b) emotion-performance (E-P) fit, and (c) coping and overall outcome (COO) (Fletcher et al., 2006). The remainder of Section 2.14 will outline each of these stages and the subsequent practical implications of the meta-model.

2.141 Person-Environment (P-E) Fit

The P-E fit stage of the meta-model proposes that strain arises from the misfit or incongruence between a person and the environment (Caplan, 1983, Caplan & Harrison, 1993; Edwards, 1991, Edwards, Caplan, & Harrison, 1998; Harrison, 1985; Kulka, 1979).

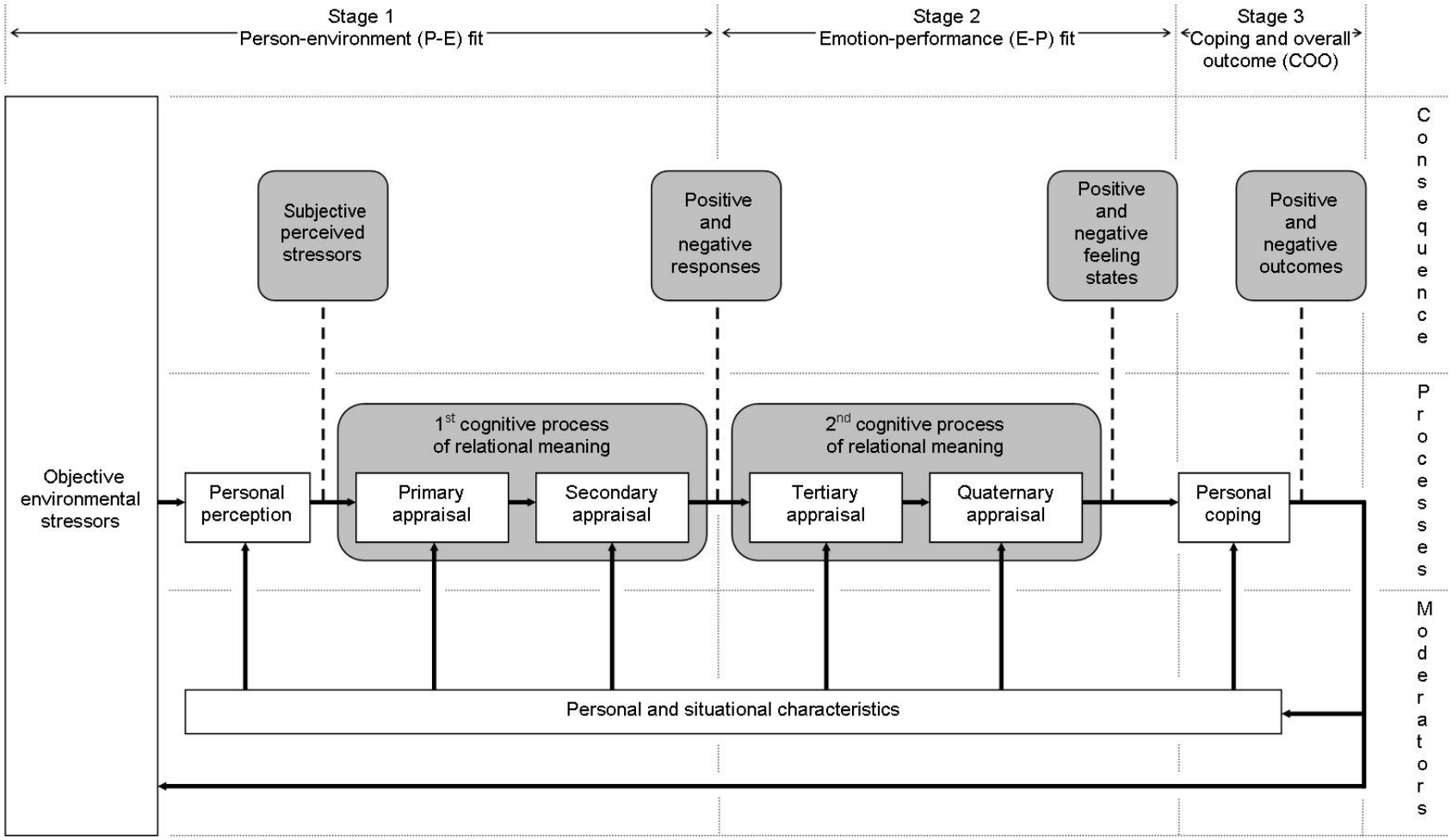

Figure 2.1. The Meta-Model of Stress, Emotions, and Performance. Reproduced with permission from Fletcher & Fletcher (2004, 2005).

The main parts of this stage are an individual's ability to manage an encounter, via his or her personal perception and an initial cognitive process of relational meaning that involves appraising stressors and a resultant emotional response (Fletcher et al., 2006). The remainder of Section 2.141 will discuss, in turn, these components of perception, appraisal, and emotional responses. Taking perception first, this refers to an individual's *awareness* of their surrounding environment (Caplan, 1987; Harrison, 1978) and can help to distinguish between subjective and objective stressors. Indeed, Fletcher et al. (2006) state: "Objective stressors include competitive, organizational and personal demands as they exist independent of the person's perceptions, whereas subjective stressors refer to those demands that are perceived by the person" (p. 333). In addition to the term stressors, environmental demands have also been conceptualised by researchers as major life events and daily hassles (cf. Dohrenwend & Dohrenwend, 1974; Lazarus, 1984). Transferring these conceptualisations to sport psychology, researchers have examined organizational stressors at *major events* such as the Olympic Games (Gould et al., 1999), Commonwealth Games (Dugdale, Eklund, & Gordon, 2002), and World Cup Finals (Holt & Hogg, 2002); and the role of *daily hassles* in the development of overtraining syndrome (Meehan et al., 2004). Turning back to stressors, Chapter One of the thesis identified the three different types of stressors in competitive sport, and explained why organizational stressors would form the focus of this thesis. For a synthesis and discussion of the research that has identified the organizational stressors encountered by sport performers, see Chapter Three.

The P-E fit stage of the meta-model also encompasses appraisal, which refers to an individual's cognitive evaluation of the meaning and significance of a perceived stressor (Lazarus, 1966). There are two types of appraisal during the P-E fit stage of the meta-model: primary and secondary. During primary appraisal, an individual evaluates if the presenting stressor is relevant to his or her values, goal commitments, beliefs about self and the world, and situational intentions (Lazarus, 1999). The fundamental question asked in this first type of appraisal is whether there is anything at stake for the individual, such as his or her core values, goals, or well-being. If an appraisal indicates that something is at stake this is described as a stressful encounter, for which there are three main meanings (also known as transactional alternatives): harm/loss, threat, and challenge (Lazarus, 1966, 1981; Lazarus & Folkman, 1984; Lazarus & Launier, 1978). To elaborate on these three meanings, Lazarus (1999) states that:

> *Harm/loss* consists of damage that has already occurred. *Threat* consists of the possibility of such damage in the future. *Challenge* is somewhat like Seyle's [1956] eustress in that people who feel challenged enthusiastically pit themselves against obstacles, feel expansive – even joyous about the struggle that will ensue. Performers of all sorts, whether musicians, entertainers, actors, or public speakers love the liberating effects of challenge and hate the constricting effects of threat. (p. 76)

If meaning is ascribed to an encounter, then secondary appraisal occurs whereby an individual evaluates what can be done about a stressful P-E relationship. It is important to note, however, that although this type of appraisal involves an evaluation of coping mechanisms, it does not concern their actual implementation (Lazarus, 1999). A number of studies in sport psychology have investigated sport performer's appraisals (Fletcher et al., 2006; see, e.g., Adie, Duda, & Ntoumanis, 2010; Allen, Frings, & Hunter, 2012; Anshel & Delany, 2001; Anshel, Jamieson et al., 2001; Calmeiro, Tenenbaum, & Eccles, 2010; Didymus & Fletcher, 2012; Dugdale et al., 2002; Hanton, Wagstaff, & Fletcher, 2012; Holt & Dunn, 2004; Kaiseler et al., 2009; Kim & Duda, 2003; Neil, Hanton, Mellalieu, & Fletcher, 2011; Quested, Bosch, Burns, Cumming, Ntoumanis, & Duda, 2011; Tamminen & Holt, 2010a; Thatcher & Day, 2008). Some of these studies have highlighted that cognitive-evaluative mechanisms may play an important role in organizational stress in sport. For example, Hanton, Wagstaff et al. (2012) found that organizational-related stressors were predominantly appraised as threatening or harmful with little perceived control. Furthermore, the findings illustrated that when cognitively appraising organizational stressors, sport performers typically reflect on the personal meaning and importance of the demands, evaluate their resources to deal with any stressors, and employ reappraisals to re-evaluate situations in a more positive way (Hanton, Wagstaff et al., 2012).

The final component to be discussed in this stage of the meta-model is emotion generation. Researchers investigating antecedents of emotions have highlighted that cognition or appraisal are necessary causes (Frijda, 1986; Lazarus, 1991). Lazarus's (1991, 1993b, 1995, 1999) theory of stress and coping contends that emotions can "tell a tale" of how a person evaluates a stressor and vice versa:

> If the theory is sound, it should make it possible to make a good guess about what a person has been thinking from what that person is feeling, and vice versa we should be able to predict the emotional reaction if we know beforehand what

> the person is thinking, and the environmental conditions he or she is facing. (Lazarus, 1999, p. 91)

Emotions have become a popular topic within sport psychology literature (Fletcher et al., 2006; see, e.g., Cerin, 2003; Cerin, Szabo, Hunt, & Williams, 2000; Hanin, 2000, 2007; Jones, 2003; Jones & Uphill, 2011; Jordet & Elferink-Gemser, 2012; Laborde, Brüll, Weber, & Anders, 2011; Lazarus, 2000; Martinent, Campo, & Ferrand, 2012; McCarthy, 2011; Nicholls, Levy, Jones, Rengamami, & Polman, 2011; Nicholls, Polman, & Levy, 2012; Uphill & Jones, 2007; Uphill, Lane, & Jones, 2012; Vallerand, 1983; Vallerand & Blanchard, 2000; Vast, Young, & Thomas, 2011). In 2005, Jones, Lane, Bray, Uphill, and Catlin proposed that there was sufficient empirical evidence to suggest and measure five main emotions in competitive sport, which could be classified as either unpleasant (e.g., anger, anxiety, dejection) or pleasant (e.g., happiness, excitement). Although these emotions can arise from appraisals of a range of different stressors, sport psychology research has typically focused on competitive stressors as antecedents of emotional responses. Despite this focus, research is beginning to emerge that highlights examples of organizational antecedents of emotions (Fletcher, Hanton, & Wagstaff, 2012; see also Lazarus, 2000; Pensgaard & Duda, 2003; Wagstaff, Fletcher, & Hanton, 2012). For example, Fletcher, Hanton, and Wagstaff (2012) reported that the main emotional responses to organizational-related stressors were anger, anxiety, disappointment, distress, happiness, hope, relief, reproach, and resentment. To advance this area of research, scholars should continue to investigate emotions within an organizational context in sport, and attempt to make more direct links to the cognitive mechanisms underpinning these responses. At this venture, it is worthwhile noting some of the issues which may have constrained emotion research to date and should, therefore, be taken into consideration for future research. These issues include: confounding emotions with attitudes, viewing emotions as somewhat of an inconvenience, and the difficulty researchers face in accurately measuring and studying emotions (Cooper et al., 2001; Fletcher, Hanton, & Wagstaff, 2012; Lazarus, 1999; Wright & Doherty, 1998).

2.142 Emotion-Performance (E-P) Fit

The E-P fit stage of the model proposes that if the relationship between an emotion and performance is out of equilibrium, then negative feeling states will occur (Fletcher & Fletcher, 2004, 2005). Specifically, Fletcher et al. (2006) explain that this stage centres around an individual's ability to deal with his or her reactions to stressors, which occurs via a

further cognitive process of relational meaning whereby stressors are appraised resulting in feeling states. Sport psychology research relevant to this stage of the model has considered the concept *emotional orientation* (cf. Fletcher & Fletcher, 2004, 2005; Hanin, 1997, 2000; see also Jones, 1991, 1995a, 1995b), which refers to a sport performer appraising if the cognitive and somatic symptoms they are experiencing have a facilitative or debilitative effect on performance. Hanin (1997, 2000, 2007) contends that there are five dimensions that will influence the appraisal of the emotion-performance relationships. These are: intensity (e.g., level, range, zones, profile); time (e.g., present, past, future; short-long duration; acute-chronic frequency; before, during, after); form (e.g., cognitive, affective, behavioural, motivational); context (e.g., situational, interpersonal, intra-intergroup, cross-cultural); and content (e.g., positive-negative, optimal-non optimal, facilitative-debilitative, task relevant-irrelevant). The content dimension appears most appropriate to the E-P fit stage, since it involves interpreting an emotion with reference to its impact on performance. How this emotion is interpreted and labelled will subsequently determine the nature of an individual's feeling state (Fletcher & Fletcher, 2004, 2005). The two types of appraisal evident at the E-P fit stage of the meta-model are tertiary and quaternary. To outline these types, Fletcher et al. (2006) explain that:

> Tertiary appraisal involves the evaluation of an emotion with regard to whether or not it is relevant to one's performance. During this process, a person considers the implications of what is at stake ("how does this emotion and performance affect me?"), thus giving meaning to symptoms . . . . If an emotion is considered meaningless there is no potential for further cognitive processes. Quaternary appraisal begins if meaning is ascribed to an emotion. This process is concerned with the identification and availability of coping resources to deal with an emotion ("what can I do about this emotion?"). This mechanism is nothing more than an evaluation of coping options and is not actually the initiation or implementation of coping strategies. (pp. 339-340)

The introduction of tertiary and quaternary appraisal at this stage of the meta-model can explain why two individuals encountering the same organizational stressor (e.g., a coach's personality) and experiencing the same emotional response to this stressor (e.g., anger) can interpret and label this response in completely different ways. For example, one sport performer might label this anger as facilitative to performance, subsequently resulting in a motivated feeling state; whereas another might label it as debilitative to performance, subsequently resulting in frustration and a futile state (Fletcher et al., 2006; Lazarus, 2000).

There are a number of personal and situational characteristics that should be considered in the E-P fit stage of the meta-model, since they can influence whether a sport performer labels an emotion as facilitative or debilitative to performance. Various moderating variables have been examined in literature outside of sport psychology, including individual difference variables such as Type A and Type B behaviour patterns, self-esteem and self-confidence (see, e.g., Ganster, 1987; Ganster & Schaubroeck, 1995; Schaubroeck & Merritt, 1997); personality variables such as optimism/pessimism, neuroticism, and coping style (see, e.g., Bolger & Zuckerman, 1995; Chang, 1998; Longua, DeHart, Tennen, & Armeli, 2009; Menaghan, 1983; Thomas, Britt, Odle-Dusseau, & Bliese, 2011; van den Tooren, de Jonge, Vlerick, Daniels, & de Ven, 2011); and situational variables such as social support, available autonomy, and control (see, e.g., Chen, Siu, Lu, Cooper, & Phillips, 2009; Jones & Fletcher, 1996; Winnubst & Schabracq, 1996). In comparison, studies investigating moderators of the stress process in sport psychology research have been less forthcoming (Fletcher et al., 2006); though there are some studies on social support (Rees & Hardy, 2004), mental toughness (Kaiseler et al., 2009), and personality (Allen, Greenlees, & Jones, 2011; Kaiseler, et al., 2012) as moderating variables. These studies have not focused explicitly on organizational stress; therefore, future research should investigate the variables that can potentially buffer or exacerbate relationships specifically within the organizational stress process in sport.

2.143 Coping and Overall Outcome (COO)

The COO stage of the meta-model proposes that negative outcomes will occur if inadequate or inappropriate coping strategies are used (Fletcher & Fletcher, 2004, 2005). Fletcher et al. (2006) explain that the main part of this stage relates to an individual's ability to cope with stressors and personal responses, which results in overall outcomes. Coping has been defined as "the cognitions and behaviours, adopted by the individual following the recognition of a stressful encounter, that are in some way designed to deal with the encounter or its consequences" (Dewe et al., 1993, p. 7). It is important to note, however, that although coping is conceptualised as a separate stage of the stress process for the purposes of clarity in the meta-model, it is involved in the overall emotion process. Indeed, as Lazarus (1999) emphasises:

> Traditionally coping and emotion are typically treated as separate entities, coping being said to follow a stressful transaction and the arousal of an emotion.

> I believe it would be better to treat coping as an integral part of a conceptual unit - namely, the emotion process. (p. 101)

A salient issue in coping research has been the distinction between coping styles and strategies. To elaborate, there is debate in the literature as to whether individual's coping efforts are consistent across situations (trait and coping style perspective), or whether coping behaviours differ based on the stressor being encountered (process and coping strategy perspective) (cf. Carver, Scheier, & Weintraub, 1989; Dewe et al., 2010; Parker & Endler, 1996; Lazarus & Folkman, 1984). The meta-model captures this distinction between styles and strategies, illustrating that coping strategies are mediators of the stress process and an individual's coping style is a personal variable that can moderate this process (Fletcher et al., 2006). To elaborate, by acting as a mediator, coping strategies can account for the relationship and provide a link between stressors (the predictor) and outcomes (the criterion) (cf. Baron & Kenny, 1986). In comparison, as a moderating variable, coping style can affect a sport performer's resilience or vulnerability to stressors; therefore, either buffering or exacerbating P-E and E-P relationships in the stress process to, subsequently, influence an individual's psychological responses and outcomes (cf. Baron & Kenny, 1986; Fletcher et al., 2006; Semmer, 1996).

In sport psychology, researchers have increasingly focused on sport performers' coping (Fletcher et al., 2006; see, e.g., Allen et al., 2011; Anshel, Kim et al., 2001; Anshel, Williams, & Williams, 2000; Crocker & Graham, 1995; Crocker, Kowalski, & Graham, 1998; Deroche, Woodman, Stephan, Brewer, & Le Scanff, 2011; Hanton, Neil, & Evans, 2012; Hoar, Kowalski, Gaudreau, & Crocker, 2006; Jackson, Mayocchi, & Dover, 1998; Jordet & Elferink-Gemser, 2012; Kaiseler et al., 2012; Kristiansen, Murphy, & Roberts, 2012; Kristiansen & Roberts, 2010; Levin & Taylor, 2011; Nicholls, Holt, Polman, & Bloomfield, 2006; Nicholls & Polman, 2007; Nicholls et al., 2012; Tamminen & Holt, 2010b). In this body of research, evidence has been provided for coping styles and the trait perspective (see, e.g., Crocker & Isaak, 1997; Krohne & Hindel, 1988; Yoo, 2001) and coping strategies and the process perspective (see, e.g., Anshel, 1996; Anshel, Jamieson et al., 2001; Gould, Eklund, & Jackson, 1993; Holt & Hogg, 2002). There are, however, some limitations of current coping research in sport psychology that need to be taken into consideration in order to advance knowledge in this area. Firstly, most studies have been retrospective in nature, which has introduced recall problems and retrospective bias from the knowledge of a situation's results (Brewer, Van Raalte, Linder, & Van Raalte, 1991;

Folkman & Moskowitz, 2004). Secondly, the research on coping in sport has typically been in relation to competitive stressors. That said, some studies have touched on coping with organizational stressors, such as expectations and pressure, interpersonal relationships, communication, environmental conditions, the media, training schedules, travel, and injury rehabilitation (see, e.g., Anshel & Delany, 2001; Anshel, Jamieson et al., 2001; Crocker, 1992; Crocker & Isaak, 1997; Dugdale et al., 2002; Gould, Eklund et al., 1993; Gould, Finch, & Jackson, 1993; Holt & Hogg, 2002; Kristiansen, Hanstad, & Roberts, 2011; Kristiansen, Murphy et al., 2012; Kristiansen & Roberts, 2010; Kristiansen, Roberts, & Sisjord, 2011; Nicholls et al., 2005). In comparison to sport psychology, mainstream psychology research on coping with organizational stress is voluminous (Fletcher et al., 2006; cf. Dewe et al., 1993, 2010; Newton, 1989; O'Driscoll & Cooper, 1994). To advance coping with stress research in sport psychology, there is a need for scholars to employ within-participant and prospective designs, and examine how sport performers cope specifically with organizational stressors.

A further limitation of coping research in sport psychology is that coping effectiveness is not fully understood. This is a pivotal area of future research, since outcomes in the stress process depend on the usage and effectiveness of coping (Fletcher et al., 2006). For example, effective coping and stress management is associated with reduced anxiety (Campen & Roberts, 2001), pleasant affective experiences (Ntoumanis & Biddle, 1998), and improved performance (Pensgaard & Duda, 2003). In comparison, ineffective coping and stress management may lead to feelings of disengagement, dissatisfaction, decrements in well-being, and reduced athletic performance (Burton, 1990; Hardy et al., 1996; Schmidt & Stein, 1991). Although some studies in sport psychology have examined coping effectiveness (Hanton, Neil et al., 2012; Kaiseler et al., 2012; Kim & Duda, 2003; Levy, Nicholls, Marchant, & Polman, 2009), future research should look to examine the relationships between coping effectiveness and potential outcomes with specific reference to the organizational stress experienced by sport performers.

2.144 Practical Implications of the Model

In 2004, Fletcher and Hanton further developed the meta-model by superimposing a multi-intervention framework onto it, in order to better understand how the stress process could be managed. The rationale for this addition was twofold: to enable knowledge transfer between mainstream psychology and sport psychology, and to bridge the gap between theory and practice, so that the model could be used to optimise sport performers' well-being and

performance and provide benefits to a sport organization (cf. Fletcher & Hanton, 2003a, 2004; Hanton & Fletcher, 2005; Hardy et al., 1996).

The multi-intervention framework proposes that stress management for sport performers can be differentiated on four levels: (a) the level of the intervention (i.e., primary, secondary, tertiary), (b) the scope of the intervention activity, (c) the target of the intervention, and (d) the assumptions underlying the intervention (Fletcher et al., 2006; see also Cooper et al., 2001; Quick & Quick, 1997). To elaborate on the levels of the intervention, primary interventions are preventative and target the organizational environment in an attempt to reduce the number, frequency, and/or intensity of stressors that sport performers encounter. Primary interventions are typically categorised in three ways: changes to the macro environment (e.g., organizational culture, leadership), changes to the micro environment (e.g., redesigning tasks, communication exercises), and changes to perceptions of control (e.g., enhancing decision-making opportunities) (Arnold & Randall, 2010; Cooper et al., 2001; Sutherland & Cooper, 2000). In support of primary interventions, there is evidence to suggest that targeting the organizational environment has a more lasting effect and is, therefore, more effective than individual-level coping strategies (cf. Ganster, Mayes, Sime, & Tharp, 1982). Furthermore, the potential to affect change is far greater by making adaptations to the environment or organization than providing individual support, since the former will typically impact a greater number of sport performers. For those organizational stressors that are unavoidable, the reactive nature of secondary interventions can help to modify sport performers' responses to stressors. Specifically, secondary interventions aim to manage stressful conditions by increasing a sport performer's self-awareness and improving his or her stress management skills (e.g., communication, cognitive restructuring, relaxation, mental toughness development, mindfulness training programmes). The final level of intervention is tertiary, where the aim is to treat the damaging consequences of stressors by helping sport performers to more effectively cope with the outcomes. This level of intervention is typically employed if primary and secondary interventions are impractical or if they are unlikely to be effective for every individual (Arnold & Randall, 2010). Examples of tertiary interventions include counselling and educational coping programmes. It is important to note, however, that the three levels of interventions discussed are not mutually exclusive and may overlap and be used in conjunction with each other.

It is important that practitioners evaluate stress management interventions, so that the effectiveness of different programmes in optimising stress and performance in sport can be ascertained. Rumbold, Fletcher, and Daniels (2012) reviewed the effectiveness of stress

management interventions in sport. This review provides evidence from cognitive, alternative, and multimodal interventions that stress components can be optimised by either reducing stressors, modifying cognitive appraisals, reducing negative affective states and increasing positive affective states, or facilitating effective coping behaviours. This review also indicates that a large number of stress management programmes in sport focus on measuring and addressing anxiety (see, e.g., Abouzekri & Karageorghis, 2010; Costa, Bonaccorsi, & Scrimali, 1984; Hale & Whitehouse, 1998; Hatzigeorgiadis, Zourbanos, Mpoumpaki, & Theodorakis, 2009; Mace & Carroll, 1986; Mamassis & Doganis, 2004; Maynard, Hemmings, & Warwick-Evans, 1995; Maynard, Smith, & Warwick-Evans. 1995; Owen & Lanning, 1982; Savoy & Beitel, 1997; Terry, Coakley, & Karageorghis, 1995; Wojcikiewicz & Orlick, 1987). As a result of this emphasis, future sport psychology research should also design and develop interventions that address organizational stress in competitive sport. Furthermore, practitioners should incorporate measures of organizational stress process components into these interventions, so that the effectiveness of the programs can be evaluated.

To develop and deliver a bespoke and effective stress-management intervention, sport psychology practitioners should tailor chosen strategies within each of the levels of intervention to the specific sport organization that they are working with and the organization's presenting stressors. In addition, practitioners should remain aware of and up-to-date with practical issues and guidelines which may affect their applied practice with certain sport organizations. These issues may include: the scepticism of psychological support, sport organizations typically placing the onus for stress-management on sport performers, and managerial politics within an organization (cf. Cooper et al., 2001; Fletcher et al., 2006).

2.2 PART TWO: PSYCHOMETRIC ISSUES IN ORGANIZATIONAL STRESSOR RESEARCH[1,2]

[1] Arnold, R., & Fletcher, D. (2012). Psychometric issues in organizational stressor research: A review and implications for sport psychology. *Measurement in Physical Education and Exercise Science, 16,* 81-100.

[2] Arnold, R., & Fletcher, D. (2011, July). *Psychometric issues in organizational stressor research: A review and implications for sport psychology*. Poster session presented at the annual meeting of the European College of Sport Science, Liverpool, England.

As can be seen in Chapter Three, organizational stressor research in sport has developed rapidly in the past decade. Although this growth has meant that a wide range of organizational stressors have been identified, researchers have yet to develop a measure or indicator to assess these stressors. In contrast, scholars working in other sub-disciplines of psychology have designed instruments that measure organizational-related stressors in non-sport contexts. For example, organizational psychologists have developed a range of measures to assess organizational stressors, including the Job Diagnostic Survey (Hackman & Oldham, 1975), Generic Job Stress Questionnaire (Hurrell & McLaney, 1988), Occupational Stress Indicator (Cooper, Sloan, & Williams, 1988), Job Content Questionnaire (Karasek, Brison, Kawakami, Houtman, Bongers, & Hamick, 1998), Organizational Constraints Scale (Spector & Jex, 1998), Pressure Management Indicator (Williams & Cooper, 1998), and the Quantitative Workload Inventory (Spector & Jex, 1998). Although it would not be relevant or appropriate in this thesis to discuss each of these measures (see, for a review, Campbell-Quick, 1998; Rick, Briner, Daniels, Perryman, & Guppy, 2001), it is worth noting that the majority present a list of declarative statements relating to the potential organizational-related stressors an individual might encounter, to which he or she is typically requested to indicate on a Likert scale if the stressor is present or how often it is encountered.

While these measures have the potential to inform the advancement of stress research in sport, it is important to note that many of these assessment tools have been confronted with a range of psychometric issues in their development and use. For instance, some measures of environmental stressors have not been specifically developed to assess stressors, but rather have tapped into individuals' attitudes or general job characteristics, such as job satisfaction, locus of control, and resilience (see, e.g., Williams & Cooper, 1998). In view of the dearth of organizational stressor measures in sport psychology and the abundance of these questionnaires in other domains, it has become clear that a pressing need exists to develop a measure of organizational stressors that is relevant to sport performers (Fletcher & Hanton, 2003a; Fletcher et al., 2006; Hanton et al., 2005; Kristiansen, Halvari, & Roberts, 2012). As can be seen in Chapter One, the development and validation of such a measure forms a main purpose of this thesis. Developing a measure and achieving this purpose would not only progress the research literature in this area of sport psychology, but could also assist practitioners in recognising and addressing the stressors that performers encounter. When constructing such a measure, it would appear prudent for sport psychology researchers to learn lessons from those scholars who have already developed questionnaires that assess organizational stressors, and use the psychometric issues that have emerged to inform their

own work. Indeed, Jex and Beehr (1991) emphasised that addressing theoretical and methodological issues can enhance knowledge and understanding of the effects that an environment has on individuals. The purpose of Part Two of this literature review is, therefore, to review psychometric issues in organizational stressor research and discuss the implications for sport psychologists seeking to measure the phenomenon in a sport context.

To address the purpose of Part Two of this literature review, the remainder of Section 2.2 will present four main areas of psychometric issues that researchers should reflect on when developing a measure of organizational stressors: conceptual and theoretical, item development, measurement and scoring, and analytical and statistical. Although the four areas are discussed separately to enable a detailed discussion of the pertinent issues, they should not be viewed as mutually exclusive since they will inevitably influence one another.

2.21 CONCEPTUAL AND THEORETICAL ISSUES

When measuring any psychosocial-related phenomenon, it is clearly important to establish *what* is being assessed and develop some understanding of how it *relates to* other associated factors. With this in mind, Section 2.21 will discuss the conceptual and theoretical issues associated with the assessment of organizational stressors in sport performers. These issues relate to defining organizational stress-related concepts, underpinning measures with a theory, and differentiating between the separate components of the overall stress process.

As was discussed in Part One of the literature review, for some time now psychology scholars have been engaged in fundamental debates about how to best conceptualise and define stress (Appley & Trumbell, 1967; Cox, 1978). To recap, stress has variously been defined as a response, a stimulus, an interaction between stimulus and response, and a transaction between the individual and the environment (Lazarus, 1990). Despite these diverse conceptualisations, researchers concur that a widely accepted definition of stress is required before meaningful measurement can commence. Indeed, adopting a definition of stress upon which there is broad agreement can facilitate the development of effective measurement systems (Cox & Griffiths, 1990), have a fundamental impact on the nature and direction of theory and research (Cooper et al., 2001), and assist in the design of appropriate and effective stress management interventions (Cohen, Kessler, & Underwood–Gordon, 1995). In view of the continual interplay that exists between individuals and their surrounding environment, scholars appear to be settling on the transactional conceptualisation of stress.

Those scholars that have already developed measures of organizational stressors have emphasised the importance of not only having a clear definition underpinning assessments,

but of also incorporating sound theory into the foundation of measures. A main reason for this is that measurement that springs from theory can provide researchers with a greater understanding of stress concepts, enabling them to better establish the meaning and practical relevance of their findings (Dewe, 2000). Despite the benefits of incorporating theory into assessment tools, it appears that many existing stressor measures do not draw on well-established theories, or indeed on any theory at all (Lazarus, 1990). Within the occupational psychology literature, Rick et al. (2001) observed that "while there are numerous frameworks that provide quite comprehensive overviews of possible hazards [stressors] . . . there are relatively few theories about the nature of stress which can be used to guide the measurement of hazards [stressors]" (p. 33). In response, Fletcher and colleagues (Fletcher & Fletcher, 2005; Fletcher et al., 2006; Fletcher & Scott, 2010) developed a meta-model of stress that can be used to inform the measurement of stressors in sport psychology, since it outlines and explains the relationships among stress, emotions, and performance. Part One of the literature review provides further information and discussion on this meta-model. In other areas of sport psychology, there are numerous examples of measures that are underpinned by theory. For instance, various attribution questionnaires (see, e.g., McAuley, Duncan, & Russell, 1992) have been fundamentally based on Weiner's (1986) attributional theory of motivation and emotion. In addition, measures assessing the relationships between a coach and his or her athletes (see, e.g., Jowett & Ntoumanis, 2004) have often been underpinned by Kelley and Thibaut's (1978) interdependence theory.

Once researchers have established the definitions and theories that will direct their approach to measurement, they should establish what specific constructs or relationships among constructs they intend to measure. While the focus of this part of the literature review (and the majority of this thesis) is on the organizational stressors encountered by sport performers, it is important to acknowledge, as indicated by the transactional definition of stress, that stressors are only one component of the broader stress process (Fletcher et al., 2006). Indeed, the mere presence of a stressor is not necessarily a condition for strain in individuals (Hurrell, Nelson, & Simmons, 1998). Therefore, any measures developed in this area should ultimately strive to provide a comprehensive assessment of the overall stress phenomenon, including stressors, appraisals, responses, coping, and outcomes. However, as Lazarus (1990) recognised, attempting to develop a single measure which captures the entire stress phenomenon will be challenging:

> This view [conceptualising stress as a transaction] has dramatic consequences and poses great difficulties for stress measurement. It abandons a simple input output analysis and becomes a fluid systems analysis involving a whole host of variables that influence each other in time and across the changing contexts of adaptation . . . the search for a single satisfactory measure is doomed to failure. (p. 4)

Hence, scholars attempting to measure stress are confronted by the conceptual need to take a holistic approach on the one hand, but adopt a more pragmatic perspective on the other hand. In view of Lazarus's (1990) remarks, it is recommended that rather than attempting to develop a single measure of stress, scholars should instead aim to generate a series of measures that assess the main components of the stress process and capture the relationships among them. From an organizational stress in sport perspective, it therefore seems logical to begin by developing a measure to assess the stressors encountered by sport performers, before progressing to other facets of the stress process. When exploring these subsequent components, researchers should firstly establish what measures currently exist. Indeed, while there are presently no rigorous measures of the stressors that sport performers encounter, numerous psychometric tools have been developed to assess the specific response of anxiety (cf. Mellalieu et al., 2006; Smith, Smoll, & Wiechman, 1998), emotions (Jones et al., 2005), and coping in sport (Gaudreau & Blondin, 2002; Kowalski & Crocker, 2001).

2.22 ITEM DEVELOPMENT ISSUES

Following the establishment of the conceptual and theoretical assumptions underpinning the design of a measure, scholars should then turn their attention to the development of items (i.e., questions) that the instrument will consist of. Important issues to consider at this stage of the process are distinguishing between different types of stressors, selecting the number of items to develop, paying careful attention to the layout and relevance of items, and establishing the generality versus specificity of the wording.

When measuring stress, some researchers have found characterising the temporal course of stressors challenging (Cohen et al., 1995). To elaborate, there are two main types of stressors which researchers should distinguish between: acute stressors are generally of short term duration, whereas chronic stressors are typically longer lasting (Lepore, 1995; Pratt & Barling, 1988). Despite the differences between these two types of stressors, measures of occupational stress have generally overlooked the temporal nature of the stress phenomenon and tended to label occupational stressors within a generic category (Bailey & Bhagat, 1987).

This lack of differentiation can be problematic, since failure to distinguish between acute and chronic stressors can affect the development of reliable and valid measurement tools (Pratt & Barling, 1988). Table 2.1 provides definitions and examples of acute and chronic organizational stressors alongside suggested items that could be used to measure them.

Research which does take into account the temporal nature of stress has generally focused on acute episodic events, and paid less attention to chronic stressors (Cooper et al., 2001; Evans & Coman, 1993). In an attempt to explain this bias, Bailey and Bhagat (1987) suggested that the transient nature of many organizations can make acute stressors more evident. Alternatively, Lepore (1995) contended that stress researchers' reliance on life-event checklist measures has favoured the assessment of acute stressors, since the checklist approach fails to assess the duration of stressors, but instead measures the number of events that individuals encounter within a specific time period. Regardless of the reasons for the focus on acute stressors, it is apparent that sport psychologists seeking to develop a measure in this area should distinguish between and assess both types of stressor. This differentiation could perhaps be achieved by creating separate acute and chronic subscales or by incorporating a response scale that measures the duration of stressors.

Table 2.1. *Definition of Acute and Chronic Organizational Stressors, Example Stressors, and Items.*

Type of Stressor	Definition of Stressor (adapted from Fletcher et al., 2006, p. 329)	Example of Stressor	Example Item to Assess Stressor
Acute organizational stressor	"Environmental demands (i.e., stimuli) that are generally of a short term duration and associated primarily and directly with the organization within which an individual is operating"	Hearing an unpleasant comment from a spectator during a match	"In the past month, I have experienced pressure associated with. . . . . hearing unpleasant comments from spectators"
Chronic organizational stressor	"Environmental demands (i.e., stimuli) that are generally of a long term duration and associated primarily and directly with the organization within which an individual is operating"	Receiving differential financial support for a whole competitive season	"In the past month, I have experienced pressure associated with. . . . . receiving financial support that is different from my team mates"

Once researchers have decided on the conceptual and theoretical basis of their measure and the different types of stressors that they intend to assess, they are ready to begin constructing items. To achieve this, a large pool of items should be created that represent all

facets of the concept under consideration (Gillham, 2000; Lepore, 1995). DeVellis (2003) has highlighted that considerably more item redundancy can be tolerated at this stage of questionnaire development; consequently, researchers should initially adopt an inclusive approach to developing items. Identifying and classifying the stressors that will underpin the items on a measure can be a challenging task in itself, since the organizational stressors that sport performers experience are essentially extraneous and widely distributed (Fletcher et al., 2006; Hanton et al., 2005). Nevertheless, this is a critical stage in the formation of items, and scholars should therefore invest time in adopting a systematic approach to developing a taxonomic classification that identifies and synthesises the range of organizational stressors that sport performers encounter (see Chapter Three). While it is important for researchers to be inclusive when developing items, they should also consider the feasibility of single-item measures. Despite these measures encountering some criticisms in the past for their perceived inability to determine estimates of internal consistency, they can be less monotonous for respondents and can reduce the likelihood of common method variance, which can occur when multiple items are used to measure the same construct (Jordan & Turner, 2008).

In addition to ensuring that the optimal quantity of items are developed to reflect the nature and distribution of organizational stressors, researchers must also pay careful attention to the quality or, more specifically, the wording and phraseology of items. In particular, the measurement literature in this area has called for the wording of questionnaire items to be short and simple, unambiguous, and not double barrelled (Bhagat, McQuaid, Lindholm, & Segovis, 1985; Kasl, 1978; 1987). In addition, scale developers should create negatively worded items that represent low levels or the absence of the construct of interest and positively worded items that represent its presence (DeVellis, 2003). Incorporating both types of wording in an inventory enables respondents to positively or negatively endorse items, thereby minimising the measurement tool's susceptibility to response bias and the acquiescence effect (Billiet & McClendon, 2000), which occurs when individuals tend to agree to items regardless of their content. It is important that sport psychologists follow these guidelines, since Lane, Sewell, Terry, Bartram, and Nesti (1999) noted that the ambiguous wording of some of the items on the Competitive State Anxiety Inventory-2 (Martens, Burton, Vealey, Bump, & Smith, 1990) pose a threat to the conceptual integrity of the scale.

To assess the quality of items that have been developed, researchers should have the initial item pool reviewed by experts in the area. An expert panel reviewing a measure of organizational stress in sport psychology might consist of sport performers, sport psychology practitioners, psychometric development personnel, and occupational and sport psychology

researchers. An expert panel can help to maximise the content validity of a scale by providing feedback on the relevance, representativeness, clarity, specificity, and conciseness of items (DeVellis, 2003; Dunn, Bouffard, & Rogers, 1999; Haynes, Richard, & Kubany, 1995). Items can then be added, modified, or deleted based on the feedback provided by experts. To further minimise flaws in questionnaire items and respondents' interpretation of them, some researchers have suggested using a qualitative technique called cognitive interviewing alongside the completion of the questionnaire (Dietrich & Ehrlenspiel, 2010). To elaborate, this involves respondents verbalising their cognitive reactions to the items and their train of thought leading to their response. Researchers are then able to evaluate if an individual understands and processes the items in the way that was intended by those who developed the measure (Willis, 2005).

Questionnaire items should also reflect the latest social and economic changes in organizations. Indeed, measures which fail to consider these changes can over emphasise the importance of some events or ignore the presence of others (Cooper et al., 2001; Glowinkowski & Cooper, 1985). With this in mind, sport psychology researchers seeking to develop a measure of organizational stressors in sport performers should be cautious of directly drawing, or even partially adapting, items from existing measures in occupational and organizational psychology. The reason being that many job stress questionnaires were conceptualised and validated over 20 years ago and therefore have questionable relevance to individuals operating within organizations today.

It is of paramount importance that any items developed for a questionnaire are relevant to those individuals that will be responding to them. To achieve this, researchers should ascertain and clearly identify who their instrument is aimed at (Bhagat & Beehr, 1985; Cooper et al., 2001; Glowinkowski & Cooper, 1985). For instance, it should be made clear that a measure of the organizational stressors encountered by sport performers is unlikely to be applicable to other personnel, such as coaches and parents. In view of this point, it seems surprising that many existing measures of occupational stressors typically assess the general characteristics of environments, rather than distinguishing between stressors that apply to everyone and those which are more specific to certain groups (Dewe, 1991; Evans & Coman, 1993; Hurrell et al., 1998). While this current focus enables comparisons across different populations and settings, it provides little ecological validity regarding the environmental stressors encountered within a specific context (DeFrank, 1988; Ivancevich & Matteson, 1988; Wilhelmson, Akerlind, Faresjö, & Ek, 1999). In contrast, population specific items assess stressors that are relevant to a specific group of individuals and in doing so are better

able to capture the subtleties of specific environments, and therefore offer greater predictive validity. The benefits of population specific items are supported in occupational stress research with nurses (see, e.g., Gray, 1984), which has found that meaningful and precisely targeted questionnaires display greater discriminant validity than more general measures. As a result of the above discussion, sport psychology researchers seeking to develop a measure of the organizational stressors encountered by sport performers should aim to generate both general and specific items, in order to enable comparisons across sports and enhance ecological validity. The authors of the Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda & Nicholls, 1992) adopted a similar approach when they incorporated features that are common to academic and sport activities, and also those that are unique to each domain (Duda & Whitehead, 1998).

2.23 MEASUREMENT AND SCORING ISSUES

In conjunction with the development of items for a questionnaire, scholars should remain mindful of the measurement and scoring of these items. There has been considerable debate amongst researchers about whether stressors should be measured subjectively, objectively, or by using a combination of both methods (cf. Frese & Zapf, 1988; Spector, 1999). This epistemological issue appears to divide social scientists into those who believe that stressors should be explored subjectively via individuals' perceptions (see, e.g., Perrewé & Zellars, 1999) and those who defend a focus on the objective stressors that exist independent of any perceptions (see, e.g., Frese & Zapf, 1999; Schaubroeck, 1999). To elaborate on the first perspective, it is argued that, in order to truly understand the stress process, research should focus on how individuals interpret environmental conditions, rather than simply relating objective stressors to strain. This subjective emphasis has prompted the use of self-report measures in stress research, since they provide an insight into the role of an individual's cognitive processing in the interpretation of certain stressors (Howard, 1994; Spector, 1994). Beyond this, the popularity of self-reports can perhaps also be explained by their accessibility, price, and convenience. However, a major criticism of self-reports is that affective and attitudinal reactions, personality traits, habitual coping responses, and social constructions have the potential to influence the perception and reporting of stressors (Greiner, Ragland, Krause, Leonard–Syme, & Fisher, 1997; Spector, 1992). To illustrate, Hall and Spector (1991) found that within a group of individuals with the same job, those who reported low job satisfaction and greater anxiety (affective and attitudinal reactions) perceived greater workload and role conflict (stressors). Researchers should be aware of these

influences, since they can place concerns over the validity of self-reports as an accurate indication of the objective environment.

In response to the limitations of subjective methods, some researchers have encouraged the use of objective measures of stress (Kasl, 1987; 1996; Kristensen, 1995; Spector, 1999), such as physical traces, archives, observations, and physiological indicators. A major advantage of objective measures is their ability to assess stressors independent of how they are perceived by individuals; thereby reducing measurement confounding. Furthermore, from a practical perspective, objective measures can provide a clearer link to the factors in the environment which require alteration (Kasl, 1998). Despite these advantages, Frese and Zapf (1988) argued that, given the subjective nature of stress, objective assessments are still ultimately underpinned by an individual's subjective perspective of their environment. In an attempt to resolve this subjective versus objective measurement debate, Kasl (1998) suggested that:

> Given the greater convenience of self-reports, on the one hand, and the reluctance to rely exclusively on subjective strategies, on the other hand, one must find strategies for collecting information from respondents while minimizing cognitive and emotional processing. (p. 399)

To elaborate, items should be developed which explore the objective aspects of the stressors, rather than asking for an individual's interpretation of the stressor. For instance, an organizational stressor item from the sporting context might ask "How often do you arrive late to your competitions?" rather than "Does arriving late to your competitions cause you distress?"

In view of the notable strengths and limitations of subjective and objective methods, some researchers have suggested using a *triangulation strategy* (Campbell-Quick, Quick, & Gavin, 2000; Ivancevich & Matteson, 1988), which incorporates multiple methods into a study so that the drawbacks of one method can be attenuated by the strengths of another. The methods that could be included in a triangulation strategy include psychometric testing (e.g., self-reports), unobtrusive measures (e.g., physical traces, archives, and observations), and physiological indicators (e.g., blood pressure, breathing rate, and skin temperature). Indeed, Bailey and Bhagat (1987) noted that "the integration of unobtrusive measures and physiological measures with self-report measures is a much needed positive step to attaining the best possible methodology for achieving reliable results in job stress research" (p. 226). In

view of this recommendation, it may seem surprising that the majority of published occupational stress research uses a single method: self-report questionnaires. While single method designs are relatively straightforward to conduct and convenient to obtain, they are considered a theoretically weak approach to measurement. To elaborate, single method designs can pose threats to the validity of research through an individual's habitual responses, un-cooperation with the method, dishonesty, and reactivity due to the knowledge that they are being assessed (Bailey & Bhagat, 1987). To summarise this epistemological issue, sport psychology researchers seeking to develop a measure of organizational stressors should be aware of the limitations and practical implications of subjective and objective methods and, in an effort to negate any limitations, consider adopting a triangulation strategy.

A further measurement and scoring issue relates to what is actually being measured by questionnaires. Dewe (1991) remarked that extant stressor measures typically imply demand by asking respondents to indicate whether they agree or disagree if certain stressors are present in their surrounding environment. While this focus is useful for establishing which stressors individuals are encountering, it assumes that the presence of a stressor somehow equates with it being demanding, which is not always the case. As a result, it is suggested that scholars not only establish if a stressor exists, but also measure the extent of each demand by assessing multiple dimensions of stressors. In the sport psychology literature, Arnold, Fletcher, and Carr (2010) recently identified eight critical dimensions of organizational stressors, which can help to provide more insightful depictions of demands. These were: duration (acute vs. chronic), intensity (high vs. low demand), timing (competition vs. training), prevalence (frequent vs. infrequent occurrence), quantity (many vs. few demands), specificity (specific vs. global), closeness (proximal vs. distal to the individual), and the overarching dimension of weighting (additive or multiplicative). Researchers should incorporate at least some of these dimensions into the response scales of an organizational stressor measurement tool, since they can provide more detailed information on stressors and enhance understanding of the stressor-strain relationship (Dewe, 1991). Despite the merits of such an approach, organizational psychologists have tended to measure only one dimension of organizational stressors (typically frequency or intensity). This can perhaps be explained by confusion over what to do with additional dimension information (Cooper et al., 2001; Hurrell et al., 1998), or because certain dimensions are not appropriate to some items (Kasl, 1998). An example of an organizational stress measure that assesses one dimension of stressors is the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983), which asks respondents about the frequency of their stressors using

items such as “In the last month, how often have you encountered X [stressor]?”. Table 2.2 provides further examples of potential wording and options for dimension response scales.

Table 2.2. *Examples of Potential Wording and Options for Dimension Response Scales.*

Dimension	Example Response Scale Wording	Example Response Scale Options
Presence	“To what extent did your participation in competitive sport involve this pressure?”	0 = Not at all 5 = A great deal
Frequency	“How often did this pressure place a demand on you?”	0 = Never 5 = Always
Intensity	“How demanding was this pressure?”	0 = No demand 5 = Very high
Duration	“How long did this pressure place a demand on you for?”	0 = No time 5 = A very long time
Quantity	“How many of these pressures did you encounter?”	0 = No pressures 5 = Many pressures

Once researchers have decided which dimensions they will assess, they should consider the most appropriate response format for their instrument. While a variety of response formats exist, those that are widely used and have proven successful in diverse applications are the semantic differential, visual analog, and the Likert scale (DeVellis, 2003). To elaborate, the semantic differential and visual analog response formats present the target stimulus that is being assessed, followed by a list of adjective pairs that represent opposite ends of a continuum. The two formats differ in the way that participants mark their responses on the continuum, with several lines presented between the adjectives on the semantic differential scaling method, compared to a continuous line on the visual analog scale. One of the most common formats within organizational stress research is the Likert scale (see, e.g., Cohen et al., 1983; Hackman & Oldham, 1975; Hurrell & McLaney, 1988), which presents a declarative sentence pertaining to an organizational stressor, to which respondents are typically required to indicate the presence of the stressor or how often it is encountered. If researchers choose a Likert or semantic differential response format, they will need to consider the optimum number of response categories (cf. Linacre, 2002). A number of options on a response format increase opportunities for variability; however, respondents can become bored thus compromising the reliability of their responses (DeVellis, 2003). Following this decision, careful attention should be paid to both the wording and layout of the

response categories, so that respondents can distinguish between the different options. In addition, scholars should consider whether they intend to use numerical or binary responses. In support of numerical responses, Zorzi, Priftis, and Umilitá (2002) found that evaluating and selecting numbers corresponds to fundamental neural mechanisms involved in assessing quantity. Despite this, binary responses are often adopted since they are easy to answer and place little burden on the respondent. As a consequence, individuals are generally willing to complete more items (DeVellis, 2003).

After respondents have completed organizational stress questionnaires, additive scoring methods are generally used to summate the Likert scale value attached to each item thereby producing an overall score for the subscale or measure (see, e.g., Cooper et al., 1988; Karasek et al., 1998; Spector & Jex, 1998). However, as the following quote from Cooper et al.'s (2001) text indicates, using additive scoring methods can lose considerable information about the specific stressors that respondents encounter:

> Use of a total or mean score may divert attention away from the different ways in which a score can be achieved and the different patterns of responses that individuals may exhibit . . . [and] lead to the erroneous conclusion that individuals who manifest the same score have a common experience of the stressor, when in fact their experiences may vary considerably. (p. 223)

In an effort to minimise these problems, sport psychology researchers could adopt weighted scoring methods, which can distinguish between theoretically important events and those deemed less important. For instance, in the Social Readjustment Rating Scale (Holmes & Rahe, 1967) respondents are asked to weight life events according to the degree of social adjustment that each event requires. While weighted scales can indicate the total amount of stressors encountered and those that are deemed most important, determining the weights involves time consuming and expensive research and, under some circumstances, weighted and unweighted indices are almost identical (Shrout, 1984). To expand on this last point, Lorimer, Justice, McBee, and Weinman (1979) remarked that "the correlation between the sums of a weighted index and a simple count of the number of items checked is sufficiently high to render the two scoring systems equivalent" (p. 306). As a result of these limitations, the value of weighting items appears questionable; therefore, it is suggested that sport psychologists wishing to measure organizational stressors use additive scoring methods. However, to minimise the limitations of additive scoring, an overall score should be produced not just for the whole instrument, but also for each separate subscale, since this would enable

researchers to assess the independent effects of diverse groups of stressors and not lose sight of individuals as complex human beings.

2.24 ANALYTICAL AND STATISTICAL ISSUES

Once items have been accurately scored, scholars will need to give thought to their analytical procedures and significance testing. In reality, of course, this process actually begins in the early stages of a research project during the formulation of a research question and the recruitment of a sample. Randomly selecting participants from a general population is considered optimal, since, as long as researchers have adequately addressed nonresponse issues (cf. Jordan, Walker, Kent, & Inoue, 2011), any findings that emerge from this sample can be inferred back to others in the general population (Thomas, Nelson, & Silverman, 2005). However, a pure interpretation of this method of selection is not appropriate for sport psychologists seeking to measure organizational stressors in the sport context, since they will by definition require a sample of sport performers. Moreover, the important issue here is whether prospective participants engage in recreational or competitive sport, and the standard of the sample. It is likely that recreational level athletes experience minimal organizational stress as a result of their participation in sport; indeed, it is probable that many take part in sport to escape organizational stress associated with other areas of their lives, such as their job. However, for athletes who engage in regular competitive sport, research demonstrates that they frequently encounter stressors primarily and directly related to the sport organization within which they are operating (see Chapter Three; see also Fletcher et al., 2006; Fletcher & Wagstaff, 2009).

After the chosen sample has completed the questionnaires, the data should be entered into a statistical computer program, so that researchers can ascertain if the population from which the sample originates is normally distributed (Thomas et al., 2005). More specifically, scholars should examine if the spread of data deviates from a comparable normal distribution, by examining the symmetry of the data distribution curve (*skewness*), alongside its vertical characteristics (*kurtosis*) (Field, 2009). While skewness and kurtosis values of zero are indicative of a normal distribution, a positive skewness value means that the frequent scores are clustered at the lower end of a frequency distribution graph and a negative value indicates that the frequent scores are clustered at the higher end (Field, 2009). Hair, Black, Babin, Anderson, and Taham (2006) advise that skewness values falling outside the range of -1 to +1 indicate a substantially skewed distribution. For kurtosis, values greater than zero indicate a peaked distribution (also known as *leptokurtic*), whereas any below zero values mean that

the distribution tends to be flatter than normal (also known as *platykurtic*) (Field, 2009). It is worth noting that the value for kurtosis when the distribution is normal is actually three; however, statistical packages typically subtract three so that the expected value is zero (Tabachnick & Fidell, 2001). Selecting a sample and deciding whether data are normally distributed are important statistical considerations for those seeking to measure organizational stressors, since these decisions influence the subsequent statistical tests that are used. To elaborate, if assumptions regarding the normal distribution of data are met, then parametric statistical tests can be adopted; however, if the data does not meet the assumptions, then alternative statistical tests should be used (e.g., non-parametric tests) that are robust to deviations from normality[3].

Once researchers have ascertained if their data are normally distributed, they should explore the factor structure of the questionnaire. The first stage of this process involves arranging the correlations between items into an *r*-matrix. An important psychometric consideration at this stage of questionnaire development involves identifying any clusters of large correlation coefficients among subsets of items, since these indicate that items could be assessing aspects of the same underlying factor (Field, 2009). Indeed, on a measure of the organizational stressors experienced by sport performers, an *r*-matrix may reveal large correlations between different items (stressors), such as coaching style and the coach's personality, since these items could be measuring aspects of the same underlying dimension (e.g., coaching). The next stage in the validation process involves using a factor (or principal component) analysis to ascertain exactly what the underlying factors are (for a discussion of the differences between these methods, see Field, 2009; Stevens, 2002). There are a number of techniques that can be used to decide whether a factor is statistically important, such as a scree plot (Cattell, 1966) and eigenvalue guidelines (Joliffe, 1972; Kaiser, 1960). Researchers can also observe communality values to identify if too few factors have been retained (Field, 2009).

Once factors have been extracted, researchers should observe how variables load onto them. At this stage of the analysis, factor rotation is typically used to ensure that variables are loaded maximally to only one factor; therefore, making interpretation easier (Field, 2009). When rotating factors, an important statistical consideration relates to which type of rotation is chosen: orthogonal or oblique (see, for a review, Darton, 1980). More specifically, orthogonal rotation keeps factors independent and unrelated during rotation, whereas in

[3] In some instances, parametric tests are robust to deviations from normality. These tests are referred to as robust methods (see, for a review, Wilcox, 2005).

oblique rotation factors are allowed to correlate. In making this decision, scholars should observe how the variables cluster on the factors prior to rotation, and consider whether the factors should be related or independent (Field, 2009). In addition to choosing the type of rotation, researchers also need to decide on a specific method of factor rotation, since there are three methods of orthogonal rotation (varimax, quartimax, equamax) and two of oblique rotation (direct oblimin, promax) (Brace, Kemp, & Selgar, 2006). Following factor rotation, researchers should attempt to identify any common themes amongst the items that are loading onto the same factors and label them accordingly.

Once the factor structure has been clarified, a confirmatory factor analysis (CFA) should be conducted on data from a new sample to check that the pre-identified model structure is reliable. Demonstrating reliability is paramount throughout the development of a psychometric instrument, since it means that a measure can produce consistent results when the same entities are measured under different conditions (Field, 2009). While there is limited empirical support for any guidelines on the optimal sample size required for CFA, it is suggested that researchers adopt as large a number as possible (MacCallum, Widaman, Zhang, & Hong, 1999; Marsh, Balla, & McDonald, 1998). Indeed, a large sample size in factor analysis has been found to favourably influence the percentage of proper solutions, and the accuracy and sampling variability of parameter estimates (Velicer & Fava, 1998). Notwithstanding this guidance, Marsh (2007) has outlined that "the resolution of this critical issue [sample size for factor analysis] must be somewhat idiosyncratic to each particular study, as the desirability of larger numbers is balanced in relation to the associated costs" (p. 781). After the model structure has been checked, revisions should be made to the items until an acceptable goodness of fit value is produced. There are various fit indices that can be adopted in a CFA (for an extensive discussion of these, see Byrne, 2006). These include, but are not limited to: the Normed Fit Index (NFI; Bentler & Bonnett, 1980), Comparative Fit Index (CFI; Bentler, 1990), Incremental Fit Index (IFI; Bollen, 1989), and the Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980). Markland (2007) remarked that the values indicative of an acceptable model fit remain controversial and unresolved; therefore, researchers wishing to measure organizational stressors should be aware of this statistical consideration and use their professional judgment to select the best model (Marsh et al., 1988). In view of the extraneous and varied nature of organizational stressors, the CFA might indicate a hierarchical factor solution. If this is the case, researchers should consider using a second-order structure to classify the factors (Byrne, 2006).

A further statistical and analytical consideration involves demonstrating validity throughout the development of a measure. Indeed, sport psychology researchers generating a measure of the organizational stressors experienced by sport performers must ensure that the instrument actually measures what it set out to conceptually (Field, 2009). This is not always a straightforward task, since there are a number of factors, known as confounding variables, which are generally not of interest to the research study but can affect measurements. Confounding can be a complex problem, since scholars can inadvertently introduce it into their measurement procedures. Zapf, Dormann, and Frese (1996) have highlighted three types of confounding that are thought to contaminate the measurement of job stressors: background, occasion, and non-constant factors. Background factors are typically stable over time and include the respondent's demographic characteristics, personality traits, and physical condition. These individual differences can affect the measurement of stressors, since they can increase vulnerability for various forms of distress. For example, individuals with high levels of negative affectivity (a personality trait) tend to focus on the negative aspects of situations and experience distress, sometimes even in the absence of objective stressors (Watson, Pennebaker, & Folger, 1987). As a result, the validity of an instrument that is designed to measure organizational stressors can be influenced by confounding variables, such as negative affectivity.

Occasion factors are generally hypothetical and can create an artificial correlation between stressors and strain. An example occasion factor is mood, whereby individuals in a depressed mood may exaggerate stressors and those in an elevated mood may perceive stressors as less pronounced (Zapf et al., 1996). Non-constant factors are extremely problematic in measurement since they have some stability over time and can influence both the independent and dependant variables (Dwyer, 1983). Despite this stability, variables in this category are termed non-constant because they can affect the perception of stressors differentially over time. Social desirability is an example non-constant factor and involves individuals responding to questionnaire items in a favourable way that is in accordance with what is considered most socially accepted (Thomas et al., 2005). Controlling non-constant factors does not give a reliable partial correlation between stressors (X) and strain (Y), since the extent to which the factors are biasing the relationship between these two variables is unknown at the time of measurement. In comparison, known constant factors can be controlled and, subsequently, the resulting partial correlation between stressors and strain considered an accurate relationship (see later in this section for example methods to control constant factors).

An additional confounding factor that is particularly pertinent in stress measurement is priming, where an earlier stimulus influences an individual's response to a later stimulus (Bailey & Bhagat, 1987; Moss & Lawrence, 1997). For instance, as the amount of attention afforded to work-related stress increases, individuals are becoming exposed to various sources of information regarding stress, and are subsequently prompted to report more stressors. Hodgins, Yacko, and Gottlieb (2005) illustrated another example of priming in sport psychology, when they primed rowers with certain self-determined words (e.g., "choose"), and found that this led to faster times on a rowing machine than priming members with non-self-determined and a-motivational words (e.g., "must").

Confounding variables can be problematic in stressor measurement since they can distort an individual's reports of the stressors that they have encountered and subsequently affect the validity of a measure. Consequently, scholars have suggested that confounding variables should be measured and controlled for, perhaps through limiting samples to individuals who are relatively un-distressed (Schonfeld, Rhee, & Xia, 1995), using objective measures to minimise cognitive and emotional processing (Hurrell et al., 1998; Lazarus, 1990), independently measuring stressors rather than the whole stress process (Kasl, 1978; 1987), removing items from a scale that are potentially confounded with an outcome (Cohen et al., 1995), adding validation items into a questionnaire (DeVellis, 2003), and statistically controlling for confounding with some form of partialling (Spector, Zapf, Chen, & Frese, 2000).

2.25 CONCLUDING REMARKS

Sport psychology researchers have called for the development of a comprehensive tool to measure the organizational stress that sport performers experience (Fletcher & Hanton, 2003b; Fletcher et al., 2006; Hanton et al., 2005; Kristiansen, Halvari et al., 2012). In contrast, scholars working in other subdisciplines of psychology have designed instruments that measure organizational-related stressors in non-sport contexts. Based on the psychometric issues surrounding these measures it has become apparent that assessment in this area is not straightforward and scholars are typically faced with vexing conceptual, theoretical, item development, measurement, scoring, analytical, and statistical issues. It is worth noting at this juncture that many of the psychometric issues discussed in Section 2.2 can be applied to the measurement of other constructs in sport; however, some are unique to the measurement of stress. Therefore, by taking into account both general and specific

measurement considerations, Part Two of this chapter has reviewed four areas of psychometric issues and discussed the implications for sport psychologists. From this discussion, 15 main psychometric issues have emerged:

- A commonly accepted definition of stress is required before meaningful measurement can commence. In view of the continual interplay that exists between the individual and their surrounding environment, it is suggested that researchers adopt a transactional conceptualisation of stress.
- Measurement that springs from theory can provide scholars with a greater understanding of stress concepts and their findings. As a result, researchers should establish or locate a theory explaining the nature of stress that can be used to inform measurement.
- Ideally when measuring stress, researchers should attempt to assess the whole stress phenomenon; however, this can pose significant difficulties for stress measurement. In view of this, researchers should be clear about what they are measuring and perhaps generate a series of measures that assess the main components of the stress process and the relationships among them.
- Measures should recognise the temporal course of the stress phenomenon, distinguish between acute and chronic stressors, and emphasise both types of stressor.
- When developing items, researchers should remain inclusive and attempt to develop a large item pool that captures all facets of the concept under consideration.
- Careful attention should be paid to the wording and phraseology of items, ensuring that they have contemporary relevance.
- Measures of organizational stressors should incorporate both general and specific items in order to enhance ecological validity and enable comparisons across sports.
- Researchers should be aware of the objective versus subjective measurement debate, recognise the limitations of their chosen method and, in an effort to negate these, consider adopting a triangulation strategy.
- The extent of each stressor should be measured by exploring the complexities of performer-organization transactions and assessing multiple dimensions of stressors.
- Researchers should consider the most appropriate response format for their questionnaire and the optimal number, wording, and layout of response options.

- Additive scoring methods should be used to assess the independent effects of diverse groups of stressors and not lose sight of individuals as complex human beings.
- When validating a questionnaire, scholars should pay careful attention to sample selection and ascertain if the spread of the data deviates from a normal distribution.
- The factor structure of a questionnaire and the loadings of items onto factors should be examined. Factor rotation is then typically used to ensure that variables are loaded maximally to only one factor; therefore, making interpretation easier.
- A large sample size should be selected for confirmatory factor analysis, to check that the pre-identified model structure is reliable.
- The effects of background, occasion, and non-constant confounding variables should be measured and controlled for where possible.

These psychometric issues illuminate the research path for scholars wishing to advance this area of inquiry and, in doing so, ensure that the field of sport psychology is better placed to help enhance athletes' well-being and performance. It is suggested that the complexity of many of these issues may have inhibited the development of a measure to date. Therefore, it is hoped that providing a dedicated review and critical discussion of these psychometric issues helps demystify and expose the stages that researchers will need to progress through. Future research should attempt to test and confirm the aforementioned methodological suggestions in an empirical study to develop this area of inquiry (see, e.g. Jordan & Turner, 2008; Jordan et al., 2011). Furthermore, it is acknowledged that in Section 2.2, the focus is primarily on assessing the organizational stressors that performers encounter, since this seems the most logical place to begin. However, when a measure of this component of the stress process has been developed, future researchers will need to consider the psychometric issues related to other components of the process, such as appraisals, responses, coping, and outcomes. Scholars will then be in the position of being able to accurately assess the unfolding stress experiences of athletes via the analysis of relationships among the components of stress. The development of this series of measures would benefit the field of sport psychology since it would enable researchers and practitioners to assess the specific stressors that sport performers encounter, how each stressor is appraised, what athletes do in response, the various coping strategies employed, and the psychological and performance outcomes of the experience. Furthermore, a series of measures will provide valuable information on the similarities and differences in these areas both within and across groups of

sport performers. Such information would form the bedrock of much needed organizational stress management interventions in competitive sport (Fletcher et al., 2006; Fletcher & Wagstaff, 2009). At the time of writing, these statements may seem like academic pipedreams, but it is hoped that this review of psychometric issues, in addition to the whole programme of research reported in this thesis, will help advance sport psychologists toward the realisation of these aspirations.

Overall, this chapter can provide a foundation for the remainder of the thesis. Specifically, the concepts, definitions, and theories outlined in Part One can underpin and guide both the design of studies in the following chapters and also the interpretation of emergent findings. The psychometric issues discussed in Part Two of this chapter can inform the development and use of a measurement indicator to assess organizational stressors (see Chapter Four). In addition, some of the measurement issues also have implications for and will inform Chapters Three, Five, and Six (e.g., conceptual and theoretical issues, item development issues, and analytical and statistical issues).

3

STUDY ONE

A RESEARCH SYNTHESIS AND TAXONOMIC CLASSIFICATION OF THE ORGANIZATIONAL STRESSORS ENCOUNTERED BY SPORT PERFORMERS[4,5]

Following reviews of the concepts, definitions, and theories of stress in Section 2.1 and the psychometric issues to be considered when measuring organizational stress in Section 2.2, this chapter will synthesise and classify the organizational stressors that are encountered by sport performers.

3.1 INTRODUCTION

As introduced in Section 2.124, psychological stress refers to a transactional phenomenon which involves an individual ascribing meaning to his or her interactions with the environment (Cox, 1978; Lazarus & Launier, 1978). This transactional perspective emphasises that stress resides neither in the person nor in the environment, but in the relationship between the two (Cox & McKay, 1981; Lazarus, 1981). Although this view of stress is widely accepted at a conceptual and theoretical level, for operational and practical reasons many researchers underpin their work with a predominantly stimulus-based model of stress. This perspective focuses on external forces or environmental demands - which are typically referred to as *stressors* - impinging on individuals' functioning (Mason, 1975). By focusing the empirical lens on the stimulus component of stress-related transactions, researchers have begun to ascertain the cause of dysfunctional responses and the consistent stressor themes or patterns that affect the majority of individuals in the populations being studied (Sutherland & Cooper, 2000).

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[4] Arnold, R., & Fletcher, D. (2012). A research synthesis and taxonomic classification of the organizational stressors encountered by sport performers. *Journal of Sport and Exercise Psychology, 34*, 397-429.

[5] Arnold, R., & Fletcher, D. (2011, September). *A research synthesis and taxonomic classification of the organizational stressors encountered by sport performers*. Paper session presented at the annual meeting of the Association of Applied Sport Psychology, Honolulu, Hawaii.

Over the past couple of decades, sport psychology researchers have adopted a stimulus-based perspective of stress when identifying the "sources of stress" that sport performers encounter (see, e.g., Gould, Jackson, et al., 1993; Noblet & Gifford, 2002; Scanlan, Stein, & Ravizza, 1991). Collectively, the stressors identified in these studies span a wide range of issues, with organizational-related stressors - defined in Section 2.13 as "the environmental demands (i.e., stimuli) associated primarily and directly with the organization within which an individual is operating" (Fletcher et al., 2006, p. 329) - emerging as particularly prevalent in performers' lives (Fletcher & Wagstaff, 2009).

The nature and distribution of organizational stressors in competitive sport are typically diverse and disparate (Fletcher et al., 2006). Consequently, and in line with the assumptions underpinning the stimulus-based perspective of stress, research in this area has typically focused on identifying the organizational stressors that sport performers encounter. At the turn of the century, Woodman and Hardy (1998, 2001a, 2001b) developed an exploratory framework that highlighted four main areas of organizational stress: environmental issues, personal issues, leadership issues, and team issues (cf. Carron, 1982). Empirical research that has adopted this framework has illustrated a wide range of organizational stressors that elite performers experience (see Fletcher & Hanton, 2003b; Hanton et al., 2005; Woodman & Hardy, 2001a). However, due to its conceptual origins, the framework may reflect a bias toward group cohesion and interpersonal dynamics (Fletcher et al., 2006; Fletcher, Hanton, Mellalieu, et al., 2012).

In an attempt to advance this area of research, Fletcher and Hanton (2003a; Fletcher et al., 2006; Fletcher, Hanton, Mellalieu, et al., 2012) proposed an alternative framework of organizational stressors that integrated recent developments in organizational psychology (see, for a review, Cooper et al., 2001) and sport psychology (see, for a review, Fletcher et al., 2006). The model consists of a three-level hierarchical framework of organizational stressors with five general dimensions: factors intrinsic to the sport, roles in the sport organization, sport relationships and interpersonal demands, athletic career and performance development issues, and organizational structure and climate of the sport. Preliminary evidence for this framework was presented in a brief report that reflected on potential stressors within each dimension (Hanton & Fletcher, 2005) and a study investigating the conceptual integrity of the framework in elite and non-elite performers (Fletcher, Hanton, Mellalieu, et al., 2012). Despite this support, Fletcher, Hanton, Mellalieu, et al. (2012) acknowledged that the framework was influenced by organizational stressors from a range of

non-sport occupations; therefore, the extent to which it is free from bias or is entirely relevant to contemporary sport is questionable.

To enhance the relevance of a study to the broader population and generalise beyond the sample studied, researchers should pay careful attention to the participants that are recruited (Onwuegbuzie & Leech, 2007). On reflection of the extant organizational stress research in sport psychology, it is apparent that studies have typically sampled elite or professional performers, with sample sizes ranging from 10 (Hanton et al., 2005) to 16 participants (Woodman & Hardy, 2001a). While these relatively small-scale, qualitative studies enable researchers to explore stressor related issues in depth, their narrow focus limits the external validity of the research since the stressors that a performer encounters can vary as a function of his or her age (see, e.g., Reeves, Nicholls, & McKenna, 2009), gender (see, e.g., Gan & Anshel, 2009), culture (see, e.g., Puente-Diaz & Anshel, 2005), sport type, skill level, and athletic experience (see, e.g., Nicholls, Polman, Levy, Taylor, & Cobley, 2007). Recently, researchers have begun to address some of these issues by exploring the organizational stressors that different populations encounter, including elite and non-elite performers (see, e.g., Fletcher, Hanton, Mellalieu, et al., 2012), parents (see, e.g., Harwood & Knight, 2009), coaches (see, for a review, Fletcher & Scott, 2010), and psychologists (see, e.g., Fletcher, Rumbold, Tester, & Coombes, 2011). Notwithstanding these advances, the number of participants sampled in this area of research typically remains low.

To realise a more complete understanding of organizational stress in competitive sport, it is necessary to consider the experiences of a larger number and wider range of performers. Indeed, as the following extract from Fletcher, Hanton, Mellalieu, et al. (2012) alludes to, sport psychology researchers investigating organizational stressors should move beyond conducting isolated studies that sample a limited number of performers:

> The body of knowledge in this area has now reached a point that researchers need to move beyond qualitative studies to identify environmental demands, and develop innovative investigative approaches that develop less biased and more encompassing taxonomic classifications of the organizational stressors encountered by sport performers. (p. 555)

One investigative approach that can be used to accumulate and consolidate isolated knowledge is a research synthesis (Feldman, 1971; Price, 1965). This method seeks to summarise available evidence by drawing overall conclusions from discrete investigations (Thomas & Harden, 2008). When quantitative data are synthesised, a meta-analysis method is

typically employed; however, for qualitative data, a meta-synthesis is adopted (Barnett Page & Thomas, 2009; Sandelowski, Docherty, & Emden, 1997). In view of the isolated and primarily qualitative nature of studies in this area, the first purpose of this study was to synthesise the research that has identified the organizational stressors encountered by sport performers. Similar research in organizational psychology, which has attempted to establish lists of potentially stressful events or situations, has typically proved to be taxonomic in nature (Cooper et al., 2001). Taxonomy is the theoretical study of classification and is used to arrange units (also labelled as *taxa)* into a nomenclature of the construct of interest (Anderson & Krathwohl, 2001; Leech & Onwuegbuzie, 2008; Simpson, 1961). Therefore, the second purpose of this study was to develop a taxonomic classification of the organizational stressors encountered by sport performers. It is envisaged that such a taxonomy will provide an understandable and applicable framework that can be used to classify organizational stressors in athletic contexts.

From a theoretical perspective, Fletcher et al.'s (2006) meta-model of stress, emotions, and performance (see Section 2.14) postulates that organizational stressors arise from the sport organization the performer operates in; are mediated by the processes of perception, appraisal, and coping; and, as a consequence, result in positive or negative responses, feeling states, and outcomes. It has been argued that the most fundamental and significant hindrance to testing this model and the application of other theories of organizational stress in a sport context (e.g., Beehr, 1998; Beehr & Newman, 1978; Cummings & Cooper, 1979, 1998; Edwards, 1991, 1992, 1998; French, Rogers, & Cobb, 1974; Karasek, 1979; Newman & Beehr, 1979; Spector, 1998) has been the lack of a valid and reliable means of assessing the organizational stressors encountered by sport performers (Fletcher & Hanton, 2003b; Fletcher et al., 2006; Hanton et al., 2005; Kristiansen, Halvari et al., 2012). With this in mind, one of the most important theoretical advances in this area would be the adoption of a systematic approach to developing a taxonomic classification that identifies and synthesises the range of organizational stressors that sport performers encounter. More specifically, such progress would provide a rigorous and robust foundation for the development of an assessment indicator, thus enabling researchers to subsequently examine the mediating linkages within, and moderating influences on, the organizational stress process in sport (cf. Fletcher et al., 2006).

3.2 METHOD

3.21 METHOD OF SYNTHESIS

While a number of meta-synthesis methods exist (Sandelowski & Barroso, 2007; Walsh & Downe, 2005), the specific method adopted in this study was a *meta-interpretation* (Weed, 2005, 2006, 2008). This method is appropriate for this study since it is well suited to broad research areas in which the studies primarily employ qualitative methods (Weed, 2005). A further reason for adopting a meta-interpretation is its interpretive rather than aggregative focus, which aims to produce "a new and integrative interpretation of findings that is more substantive than those resulting from individual investigations" (Finfgeld, 2003, p. 894). This emphasis allowed novel patterns to emerge from the data so that an advanced and integrative taxonomic classification of organizational stressors could be developed.

3.22 DATA SET DEVELOPMENT

The first stage of developing the data set involved the author selecting a sample of illustrative studies that were relevant to the research area (Weed, 2005, 2006, 2008). To identify further studies for the data set in subsequent iterations, a number of electronic databases were used. These included Article First, Applied Social Sciences Index and Abstracts, Medline, Physical Education Index, PsychARTICLES, PsycINFO, SportDISCUS, Web of Science, and Zetoc. To decide which key search terms were to be used in these databases, the author sought feedback from experts who had extensive experience of researching stress. In addition, the technique of *citation pearl growing* (Hartley, Keen, Large, & Tedd, 1990) was also used to trace relevant studies, which involved identifying keywords and descriptors in citations that could be incorporated into subsequent searches. As a result of these two processes, a number of terms were used in combination to search for pertinent studies in the aforementioned databases (see Figure 3.1). This search strategy returned a larger volume of literature at each iteration of the meta-interpretation than was originally anticipated (see Figure 3.1). Therefore, to identify appropriate research that could provide a conceptual and theoretical contribution, the studies underwent a thematic and context analysis and various exclusion criteria were developed as the meta-interpretation progressed (Weed, 2005, 2006, 2008). Studies were excluded for a range of reasons, including the study not being published (see, e.g., Rumbold, 2007), the work not presenting original data (see, e.g., Hanton & Fletcher, 2005), participants being sampled who were not sport performers (see, e.g., Harwood & Knight, 2009), sport performers being sampled who had not reported encountering organizational stressors (see, e.g., Kihl et al., 2008), and the publication

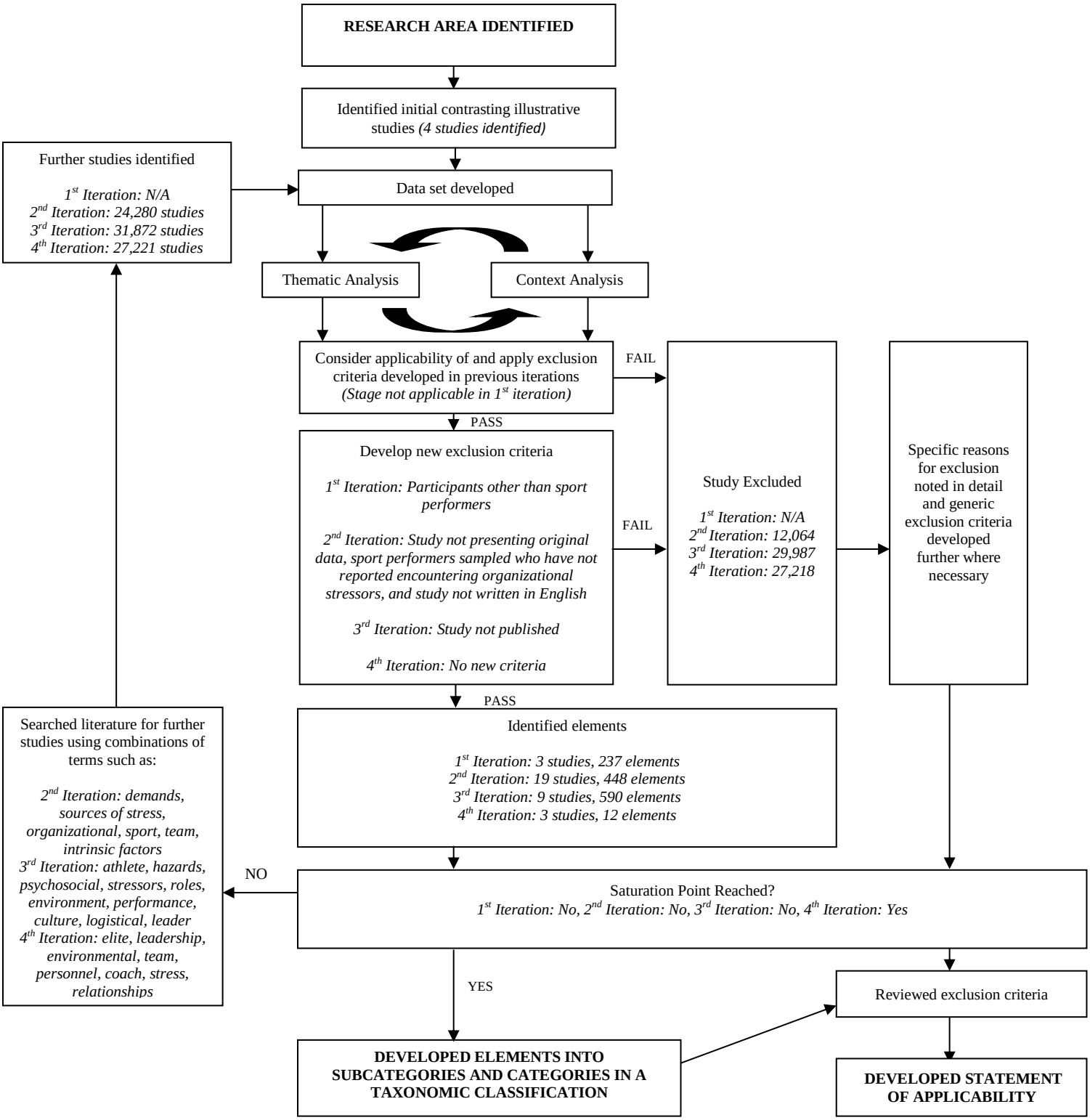

Figure 3.1. The Meta-Interpretation Procedure Adopted in This Study (Study One). Figure adapted from "Meta-Interpretation: A method for the interpretive synthesis of qualitative research," by M. Weed, 2005, *Forum Qualitative Sozial Forschung*, *6*, p. 12. Copyright 2005 by Forum Qualitative Sozial Forschung.

language not being English. Therefore, to be eligible for inclusion, studies were required to be published (or in press), present original data, sample sport performers that had encountered organizational stressors, and be written in English. In addition to the criteria that were developed in this meta-interpretation, Xu (2008) suggested using spatial (i.e., participants from a certain area or nation) and temporal (i.e., time cut-offs for included studies) criteria. However, the author decided not to employ these additional criteria, so that any theoretically relevant studies could be collected.

Since this study seeks to provide a rigorous and robust foundation for the development of theory in this area of research, it is important that relevant concepts and constructs are clearly defined. Indeed, Klein and Zedeck (2004) remarked that "clearly defined constructs are the building blocks of good theory" (p. 932). In line with Fletcher, Hanton, Mellalieu et al.'s (2012) remarks about previous research in this area, an inclusive approach was adopted when classifying organizational stressors. To elaborate, rather than only including those stressors that were directly associated with the sport organization (e.g., "the governing body of my sport"), any environmental stressors that were considered to be primarily associated with the organization within which a performer was operating, but often related in some secondary sense with competitive or personal aspects of performers' lives, were also included in the meta-interpretation process (e.g., "the officials in my sport") (cf. Fletcher et al., 2006; Fletcher, Hanton, Mellalieu, et al., 2012).

3.23 PROCEDURE

As illustrated in Figure 3.1, the meta-interpretation began by identifying the research area, before selecting an initial sample of four contrasting, illustrative studies that provide the greatest opportunity to learn. This is known as *maximum variation sampling* (Patton, 2002) and required the researchers to display theoretical sensitivity to the research area. Similar to grounded theory (cf. Pidgeon & Henwood, 1996), displaying theoretical sensitivity involves the synthesiser possessing a broad awareness of the field so that the first sample of studies can be selected (Weed, 2008). Once these studies had been selected, they were subjected to a concurrent thematic and context analysis to identify what conceptual and theoretical contribution each could make to the developing issue(s) in question. This analytical procedure involved extracting interpretations of organizational stressors from the original research studies into elements. The author chose to extract and synthesise interpretations of organizational stressors rather than the raw data itself, since interpretations are widely

available in journal publications and this approach maintains meaning within the original research context (Weed, 2005, 2008).

Following this initial thematic and context analysis, the need to reject any of the studies was considered and the aforementioned exclusion criteria were developed (see Figure 3.1). For instance, after the initial iteration it became evident that some studies had explored the organizational stressors encountered by personnel other than sport performers. Consequently, to ensure that the data set addressed the purpose of this research, these studies were excluded. The exclusion criteria were established as the meta-interpretation progressed rather than adopting predetermined selection criteria, since the latter can exclude potentially relevant and insightful studies simply because they use unorthodox methods (Weed, 2008). After the exclusions had been removed, further theoretical sampling was conducted by specifically targeting relevant studies with the key terms from both the expert feedback and citation pearl growing outlined in the previous section, alongside those that emerged from the concurrent and thematic analysis in the earlier iteration(s) (see Figure 3.1) (Weed, 2006, 2008). The selected studies then underwent a concurrent thematic and context analysis and the researchers considered whether the exclusion criteria from the previous iteration were still relevant. Since the criteria were still applicable, new bases for exclusion were considered and noted. For instance, at this stage of the process some studies were found that did not present original data and, since this study attempts to maintain meaning in context, it was decided that this would form a new basis for exclusion. The next stage in the meta-interpretation involved exploring the elements that had been extracted, while assessing the need to further theoretically sample. The above meta-interpretation cycle was then repeated for four iterations until, in a similar manner to grounded theory (cf. Pidgeon & Henwood, 1996), the analysis became saturated and it was deemed that no further additional insights were emerging (Weed, 2006, 2008).

Thomas and Harden (2008) have suggested that when using a meta-synthesis method, scholars should attempt to go beyond the original research findings and "generate additional concepts, understandings, or hypotheses" (p. 51). Therefore, once saturation had been achieved, the findings were explored, interpreted, developed, and presented in the form of a taxonomic classification. To elaborate, interpretations of organizational stressors were extracted into elements, which were subsequently combined and catalogued into subcategories, before they were conceptualised into appropriate categories through the processes of open and focused coding, constant comparison, critical reflection, and discussion between the author and her supervisors. This interpretation process was not without its

difficulties, since the complex and dynamic nature of organizational stressors (cf. Fletcher et al., 2006) often made it difficult to analyse and operationalize the data. For example, the following quote illustrates organizational stressors related to both a coach and diet:

> He [the coach] used to turn around and tell me that I was too fat and that I needed to lose weight and everything and I used to get really p****d off with him . . . it caused me a lot of problems in my personal life because I used to think about it all the time. (McKay et al., 2008, p. 154)

McKay et al. (2008) interpret this quote as "coach's comments about weight" (p. 154). Therefore, after extracting this interpretation into an element, the author used her own interpretation to classify and catalogue the element into an appropriate subcategory. To this end, the author compared the element to others that had already been extracted in the meta-interpretation process, critically reflected on what the element was primarily illustrating and, after discussion with her supervisors, concluded that the element would be most appropriately categorised in the coach's behaviour and interactions subcategory.

While the taxonomic classification provides a comprehensive description of organizational stressors, the outcome is reflective of the process of interpreting, categorising, organising, and identifying the characteristics of each element, subcategory, and category. Furthermore, the author's interpretation was used for the appellation of subcategories and categories within the taxonomic classification since, unlike extant frameworks in this area, the author did not want these labels to be biased and predetermined by previous research, but rather be guided by her own meta-level interpretations of the emergent data. Following the interpretation of organizational stressors, a *statement of applicability* was produced (Weed, 2006) to identify the boundaries of relevance for the findings and to enhance the quality and integrity of the meta-interpretation. This statement is as follows:

> This study and its findings relate to the organizational stressors that sport performers encounter as part of their participation in competitive sport. The meta-interpretation process synthesised interpretations of organizational related demands from published (or in press) research studies written in English. These studies sampled both male and female sport performers, who ranged in age from 12 to 56 years, were drawn from a number of different countries and sports, and competed at standards ranging from high school to international and professional level. A taxonomic classification is presented that is intended to provide academic researchers and practitioners with the most accurate, comprehensive,

parsimonious, and externally valid conceptualisation of stressors in sport organizations to date.

3.24 RIGOUR AND TRUSTWORTHINESS

It is essential that researchers conducting a meta-interpretation demonstrate rigour and trustworthiness because they are active interpretive agents within the synthesis process (Denzin, 1998). Researchers can enhance rigour and trustworthiness by providing clear and comprehensive descriptions of the procedures that they use (Egger & Smith, 1998). Indeed, a fundamental feature of a meta-interpretation is a transparent "audit trail" that details any decisions and interpretations made (Weed, 2006). Therefore, detailed information is provided about the procedures used and the decisions taken in this study, to not only enhance the credibility of the research process, but also to support the veracity of the findings and enlighten others about the methodology (Finfgeld, 2003). When conducting a meta-interpretation, Weed (2006) advised researchers to be cognisant of the *triple hermeneutic effect*, which occurs when the synthesiser's interpretations are added to those of both the original researcher(s) and participants. While this third layer of interpretation can add significant value to a synthesis, it can also potentially lose some individual differentiations in the move from specific to generic data. To minimise the loss of individual differentiation in this study, the interpretations were extracted from the original studies in their purest form. For instance, some of the organizational stressors that emerged were highly specific to the sample and the context in which they had been encountered (e.g., "threat of hitting whales" was specific to sport performers competing in sailing); however, rather than rewording these stressors in an attempt to increase their applicability to other performers, these stressors were extracted verbatim to accurately reflect the performers' personal experiences (see Section 2.22).

3.3 RESULTS

The meta-interpretation synthesised the findings of 34 studies before it was considered that theoretical saturation had occurred. Descriptive information about these studies is presented in Table 3.1. Published between 1990 and 2012, the 34 studies sampled a total of 1809 participants (1000 males, 646 females, 163 unknown sex) who ranged in age from 12 to 56 years, were drawn from seven countries, and represented 34 sports at standards ranging from high school to international and professional level. This diversity of nations,

Table 3.1. *Descriptive Information about the 34 Studies Included in the Meta-Interpretation (Study One).*

Author(s) surname	Year published	Method	Number of participants	Participants' gender	Participants' mean age in years (range)	Participants' sport(s)	Participants' nation(s)	Participants' standard
Cohn	1990	Interviews	10	10 male 0 female	–– (15-17)	Golf	USA	High school
Scanlan, Stein, & Ravizza	1991	Interviews	26	15 male, 11 female	35.11 (22-49)	Figure skating	USA	Senior national
Gould, Eklund, & Jackson	1992a	Interviews	20	–– ––	26.6 (21-31)	Wrestling	USA	International
Gould, Eklund, & Jackson	1992b	Interviews	20	–– ––	26.6 (21-31)	Wrestling	USA	International
Gould, Jackson, & Finch	1993	Interviews	17	7 male, 10 female	25 (18-33)	Figure skating	USA	Senior national
Gould, Udry, Bridges, & Beck	1997	Interviews	21	11 male, 10 female	23.9 ––	Skiing	USA	International
James & Collins	1997	Interviews	20	10 male 10 female	22 (17-31)	Hockey, soccer, gymnastics, rowing, swimming, track and field, dressage, fencing, golf, rugby union, tennis	––	Club to international
Gould, Guinan, Greenleaf, Medbery, & Peterson	1999	Interviews	23	11 male 12 female	–– ––	––	USA	International
Anshel & Wells	2000	Interviews	20	20 male 0 female	–– (16-42)	Basketball	Australia	Club
Woodman & Hardy	2001	Interviews	16	8 male 8 female	23.9 (17-30)	––	UK	International
Dugdale, Eklund, & Gordon	2002	Questionnaires	91	––	25.6 (14-46)	Athletics, badminton, boxing, cricket, cycling, diving, gymnastics, hockey, lawn bowls, netball, shooting, squash, weightlifting	New Zealand	International
Holt & Hogg	2002	Interviews	10	0 male 10 female	24.3 (19-30)	Soccer	––	International
Noblet & Gifford	2002	Interviews	32	–– ––	–– ––	Australian football	Australia	Club
Fletcher & Hanton	2003	Interviews	14	7 male	27.36	––	England	International

				7 female	(21-38)			
Giacobbi, Foore, & Weinberg	2004	Interviews	11	11 male 0 female	21.18 (19-25)	Golf	South East USA	Collegiate/ university
Giacobbi, Lynn, Wetherington, Jenkins, Bodendorf, & Langley	2004	Interviews	5	0 male 5 female	18 ––	Swimming	USA	Collegiate/ university
Holt & Dunn	2004	Audio-diaries and interviews	4	0 male 4 female	24.75 (21-28)	Soccer	Canada	Collegiate/ university to national
Devonport, Biscomb, Lane, Mahoney, & Cassidy	2005	Focus groups and interviews	33	0 male 33 female	16.7 (14-18)	Netball	England	Junior national
Hanton, Fletcher, & Coughlan	2005	Interviews	10	10 male 0 female	22.0 (18-36)	––	England	International
Heller, Bloom, Neil, & Salmela	2005	Interviews	6	0 male 6 female	20.2 (19-22)	Ice hockey	USA	Collegiate/ university
Nicholls, Holt, Polman, & James	2005	Diaries	11	11 male 0 female	16.4 ––	Golf	Wales	International
Thelwell, Weston, & Greenlees	2005	Interviews	6	6 male 0 female	–– ––	Cricket (batsmen)	England	Professional
Bawden, Chell, & Maynard	2006	Interviews	20	11 male 9 female	15.2 (13-18)	Table tennis	England	National
Nicholls, Holt, Polman, & Bloomfield	2006	Diaries	8	8 male 0 female	24.6 (21-28)	Rugby union	UK	Professional
Nicholls, Polman, Levy, Taylor, & Cobley	2007	Concept maps used as open ended questionnaire	749	455 male 294 female	19.8 (18-38)	––	––	Club to international
Thelwell, Weston, & Greenlees	2007	Interviews	9	9 male 0 female	27.5 (18-38)	Cricket (batsmen)	England	Professional
McKay, Niven, Lavallee, & White	2008	Interviews	12	5 male 7 female	22.7 ––	Track athletics	UK	National to international
Kaiseler, Polman, & Nicholls	2009	Questionnaire	482	305 male 177 female	20.44 (16-45)	––	UK	Club to international
Mellalieu, Neil, Hanton, & Fletcher	2009	Interviews	12	6 male 6 female	23.67 (19-56)	Rowing, hockey, swimming, snooker, rugby union, mountain biking, soccer, surf-lifesaving, tennis, badminton	UK	State/Regional to international
Nicholls, Jones, Polman, & Borkoles	2009	Diaries	5	5 male 0 female	27.2 ––	Rugby union	UK	Professional

Reeves, Nicholls, & McKenna	2009	Interviews	40	40 male 0 female	14.22 (12-18)	Soccer	England	Club
Weston, Thelwell, Bond, & Hutchings	2009	Interviews	5	5 male 0 female	42.4 (32-53)	Sailing	––	Professional
Kristiansen & Roberts	2010	Interviews and open ended questionnaires	29	8 male 21 female	16.6 (14-17)	Handball, track and field, swimming, judo	Norway	Junior national
Fletcher, Hanton, Mellalieu, & Neil	In press	Interviews	12	6 male 6 female	27.08 ––	––	England	State/Regional to international

sports, and standards of participants sampled illustrates the broad range of contexts studied within this meta-interpretation (see Table 3.1 for further details). Emerging from the analysis were 1287 organizational stressors, of which 647 were duplicates. Therefore, 640 distinct stressors were identified. The meta-interpretation abstracted all of the stressors into 31 subcategories, which were subsequently organised to form four categories: leadership and personnel issues, cultural and team issues, logistical and environmental issues, and performance and personal issues (see Figure 3.2). Leadership and personnel issues encapsulated the organizational stressors associated with the management and support of a sports team. Cultural and team issues encapsulated the organizational stressors associated with the attitudes and behaviours within a sports team. Logistical and environmental issues encapsulated the organizational stressors associated with the organization of operations for training and/or competition. Performance and personal issues encapsulated the organizational stressors associated with a performer's athletic career and physical self.

3.31 LEADERSHIP AND PERSONNEL ISSUES

Leadership and personnel issues consisted of *the coach's behaviours and interactions, the coach's personality and attitudes, external expectations, support staff, sports officials, spectators, media, performance feedback,* and the *governing body* (see Figure 3.3). Since a coach plays a highly influential role in a performer's involvement in sport, it is not surprising that a coach's personality, attitudes, behaviours, and interactions were repeatedly identified as significant organizational stressors. The following quote illustrates how one coach's behaviour was not congruent with an athlete's expectations of how they should act in certain situations:

> There was a bit of clash of personalities. I went to do this move and I didn't do it basically. I sort of kicked out at the last minute and nearly broke my neck. It really freaked me out . . . . You know, heart beating and things like that and this coach sat and laughed and thought it was hilarious . . . . I wasn't happy with the way she dealt with it. (Fletcher & Hanton, 2003b, p. 187)

The most commonly mentioned coach-related organizational stressors included coaches who were perceived as "technically incompetent", "constantly criticizing" athletes, and "non-supportive", since these characteristics affected coach-athlete relationships, creating "coach-athlete tension" and "conflict". Two main sources of conflict that performers most commonly

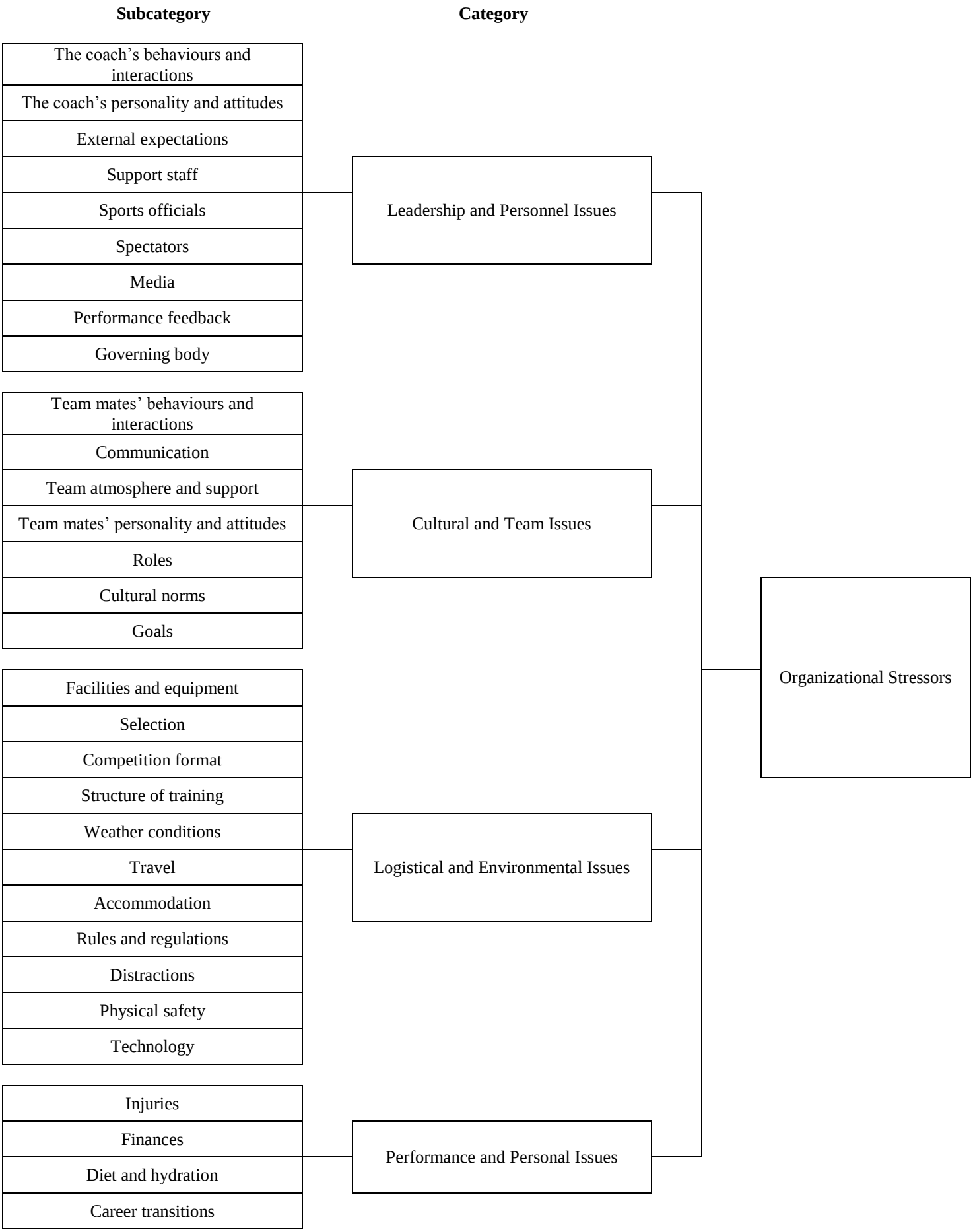

Figure 3.2. A Taxonomic Classification of the Organizational Stressors Encountered by Sport Performers (Study One).

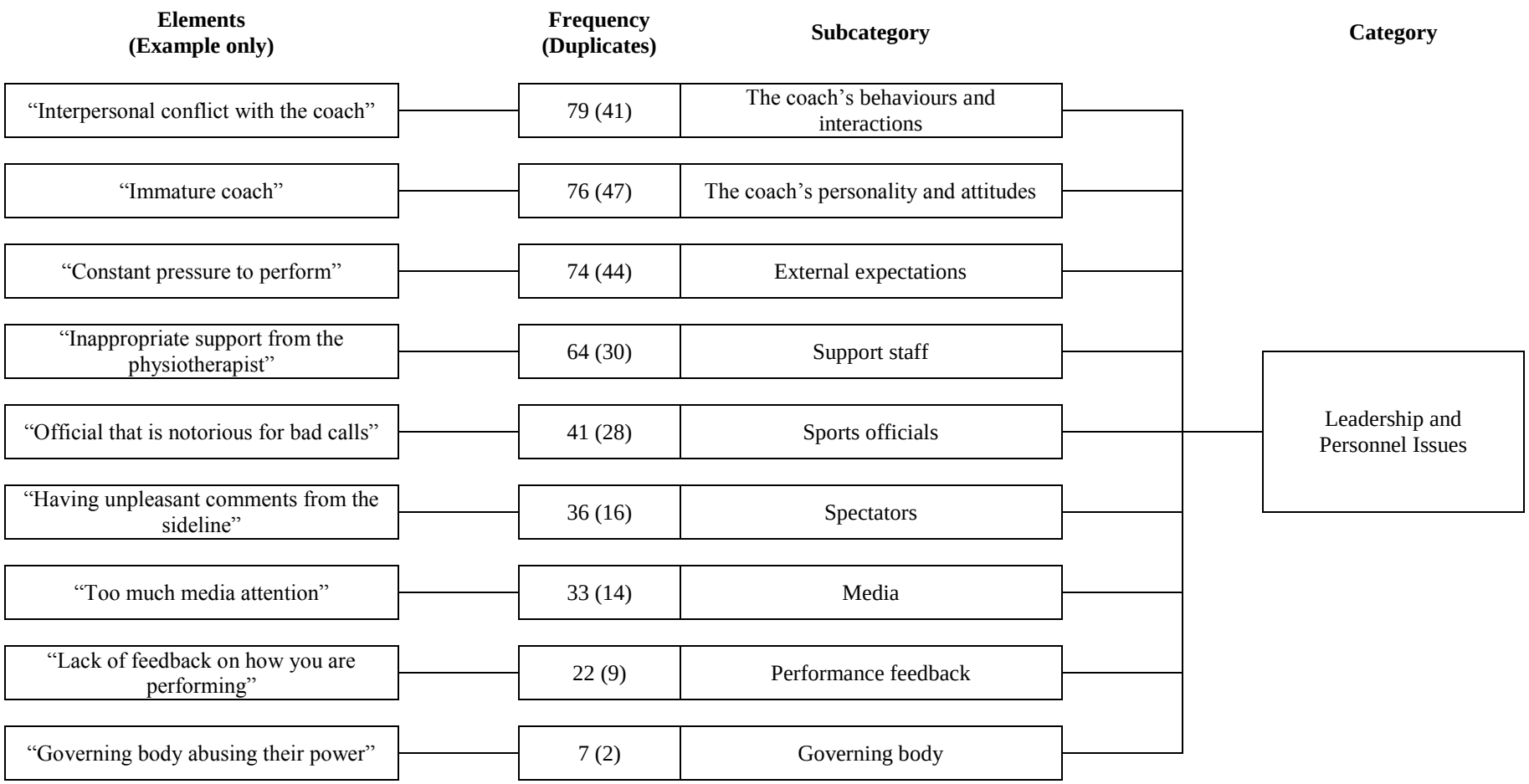

Figure 3.3. A Taxonomic Classification of the Organizational Stressors Encountered by Sport Performers: Leadership and Personnel Issues (Study One).

recalled were a “lack of performance feedback” and “not knowing what you have done wrong”. A further issue that had the potential to create conflict was external expectations from a variety of people, including parents, coaches, and team mates. For instance, several studies reported how these individuals placed “high and inconsistent pressure” on athletes to perform and achieve. In addition to these personnel, support staff and individuals in the governing body created considerable stressors for athletes. For example, some support staff had provided “inappropriate support” to performers and demonstrated a “lack of knowledge”, while governing bodies had displayed a “lack of organization after the resignation of a coach”.

While the above stressors relate to those personnel within a performer’s sporting organization, stressors have also been encountered in relation to people located on the periphery of the organizational context, including the media and spectators. Indeed, study participants reported issues associated with a “hostile and abusive crowd”, the pressures of “being in the public eye”, and encountering “too much media exposure”. A final noteworthy issue to emerge was related to sports officials who “didn’t fulfil their role”, displayed “biased judging”, and “made bad calls”.

3.32 CULTURAL AND TEAM ISSUES

Cultural and team issues consisted of *team mates’ behaviours and interactions, communication, team atmosphere and support, team mates’ personality and attitudes, roles, cultural norms,* and *goals* (see Figure 3.4). Performers are often required to spend a considerable amount of time with team mates, particularly those who participate in team sports. These interactions typically give rise to a number of organizational stressors that can create an “undesirable team atmosphere”, such as “negative behaviour of team mates” or “team mates lacking ambition”. The following quote provides an insight into how team mates’ behaviours and interactions can create an undesirable training environment:

> They [skating peers] made it difficult to practice; they played mind games with you . . . . This one girl one day came in and she was just obnoxious, evil, rotten, basically a witch . . . . You just hear all these little rumors that were started about you. (Scanlan et al., 1991, p. 113)

An additional stressor that had the potential to create conflict was “a lack of communication” among coaches, administrators, and performers. Such communication

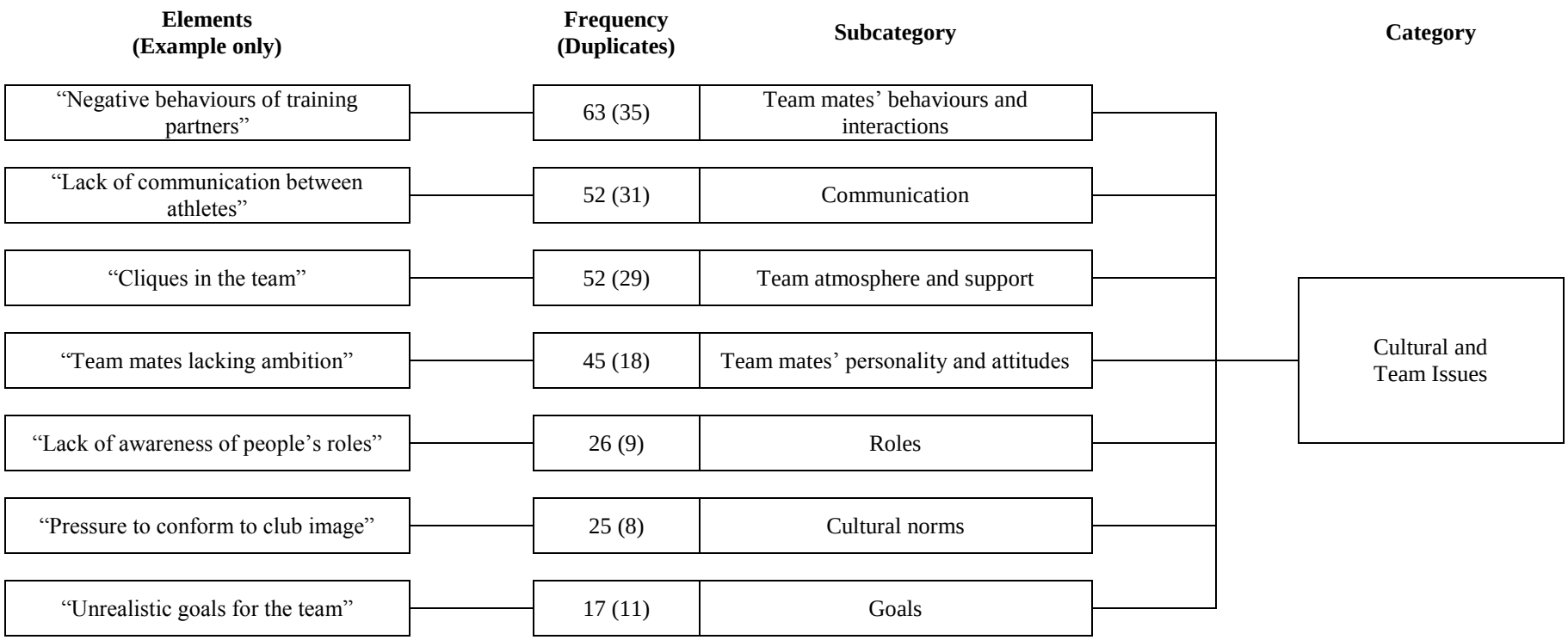

Figure 3.4. A Taxonomic Classification of the Organizational Stressors Encountered by Sport Performers: Cultural and Team Issues (Study One).

problems have typically related to “team members’ perspectives being ignored”, “the organization of training”, and “financial issues”. A further cultural and team issue that has been identified as a contributory factor to strain is the pressure placed on performers to conform to cultural norms of a team, club, and/or sport. In addition, a team can create strain for performers via the goals that they set. Indeed, performers commonly accept individual and team goals as integral aspects of their preparation for competition; however, goals that were “unclear and unrealistic” with “no direction” emerged as significant organizational stressors. Clarity was also required regarding performers’ roles, since a “lack of role structure” and a “lack of awareness about others’ roles” are both stressors that have been repeatedly identified in the literature.

3.33 LOGISTICAL AND ENVIRONMENTAL ISSUES

Logistical and environmental issues consisted of *facilities and equipment, selection, competition format, structure of training, weather conditions, travel, accommodation, rules and regulations, distractions, physical safety,* and *technology* (see Figure 3.5). The structure of training is a significant organizational stressor for performers. To elaborate, athletes have encountered stressors relating to the content, duration, intensity, frequency, and organization of training sessions. Furthermore, the facilities that performers train and compete at, together with the equipment they use, have been identified as prominent organizational stressors. Another stressor that emerged from the literature was selection. The main selection issues were “being dropped”, “an inappropriate selection process”, and “perceived unfairness during selection”. The following quote illustrates how perceived unfairness in the selection process can create considerable frustration for sport performers:

> I was just like, well, what’s the point? You know who you want to take, you know who’s going to go, you know where you want them to be ranked, so therefore you fix it. So why am I going through this? Why can’t I do my normal training to make me compete well at the competition instead of having these stupid f***ing trial things. (Woodman & Hardy, 2001a, p. 215)

Once selected, athletes highlighted that organizational stressors were encountered when traveling to competitions. Indeed, both “prolonged traveling” and “unsatisfactory arrival times” have the potential to contribute to performers’ levels of strain. On arrival at competitions, stressors relating to “the competition schedule” and having to “compete in multiple events” both arose. The organization of accommodation was another pressing

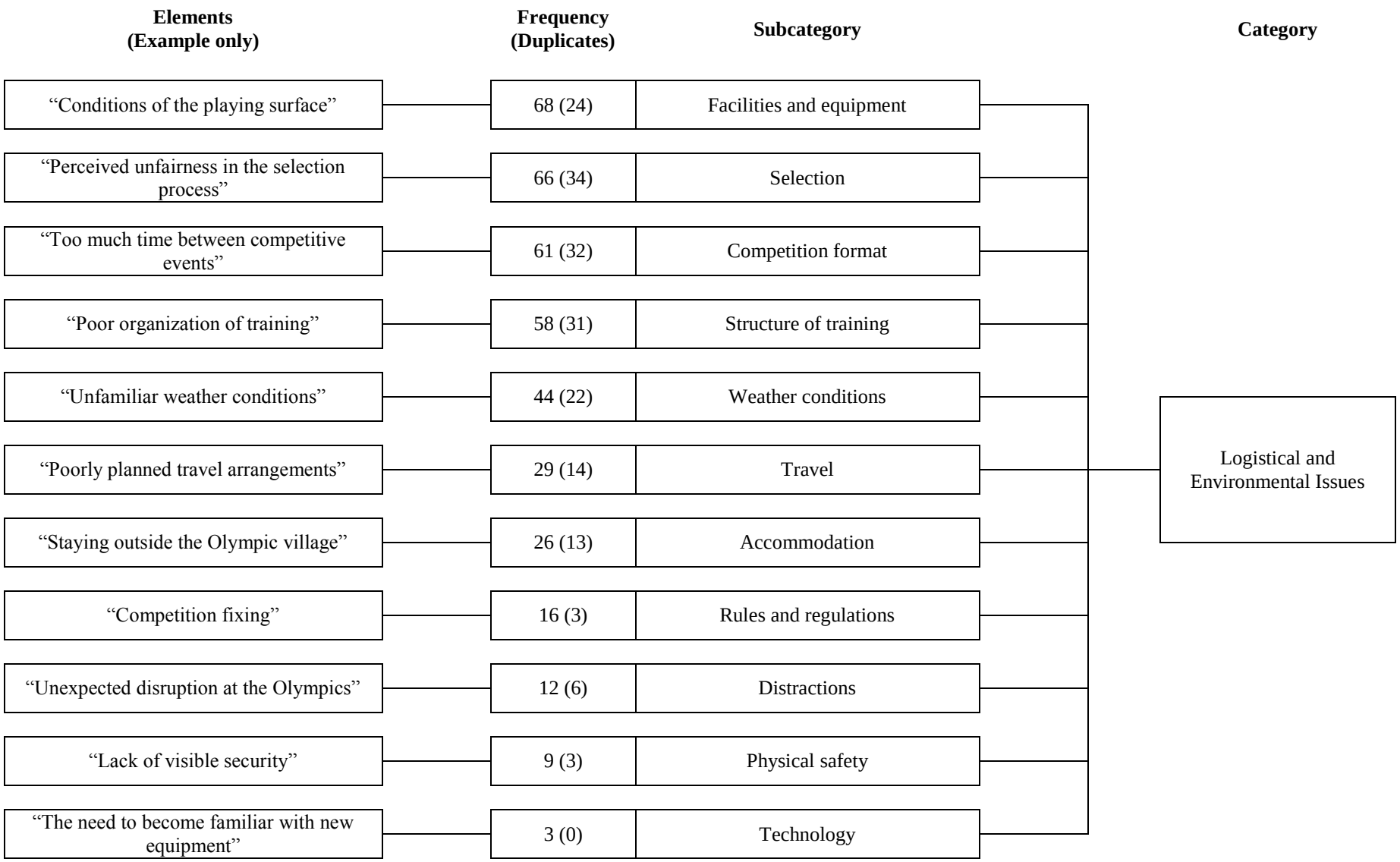

Figure 3.5. A Taxonomic Classification of the Organizational Stressors Encountered by Sport Performers: Logistical and Environmental Issues (Study One).

stressor, with many performers recalling "disturbed sleep patterns" and "incompatible roommates". Turning to the stressors associated with rules and regulations, it is important to note that these were generally specific to the sport being studied. However, "banned substances" emerged as a common stressor across sports. Another stressor that was evident in many sports was weather conditions, including "unfamiliar" and "extreme weather". The other subcategories in this category related to distractions when performing, physical safety, and technology.

3.34 PERFORMANCE AND PERSONAL ISSUES

Performance and personal issues consisted of *injuries, finances, diet and hydration,* and *career transitions* (see Figure 3.6). An organizational stressor that was encountered across a wide range of sports was injuries. More specifically, many performers seemed acutely aware of the pressures to "train and compete through injuries", despite the numerous negative consequences that are associated with this behaviour. While some individuals chose to ignore these potential consequences, others were simply unaware of them, which can perhaps be explained by a "lack of support while injured" and a "lack of structure to injury treatment". A further area where performers felt unsupported was in their finances for sport. Indeed, several athletes encountered stressors relating to "inadequate financial support". It is important to note that this stressor only applied to elite athletes who received financial assistance and to professional performers whose occupation was their sport, and who therefore had limited time to earn money elsewhere. This sole income often means that athletes rely on "sponsorship" and "contract renewal and negotiation" to enable their sporting involvement; however, both of these emerged as organizational stressors. Further financial stressors that elite and professional athletes encountered related to "differential funding" or "perceived favouritism" in the monetary allocations within their sport.

It is also clear that diet and hydration can be major stressors for performers. A central issue in this subcategory was "disordered eating", which is perhaps closely related to "the importance placed on diet" by coaches, athletes' attempts to "attain and maintain an optimal body weight", the "poor provision of food" at competitions, and "upsets due to foreign cuisine". Coaches and support staff that place importance on diet and comment on body weight can place significant stressors on sport performers, as the following quote illustrates:

> You should do a whole story on weight in figure skating; it is such an appearance sport. You have to go up there with barely anything on . . . . It's not

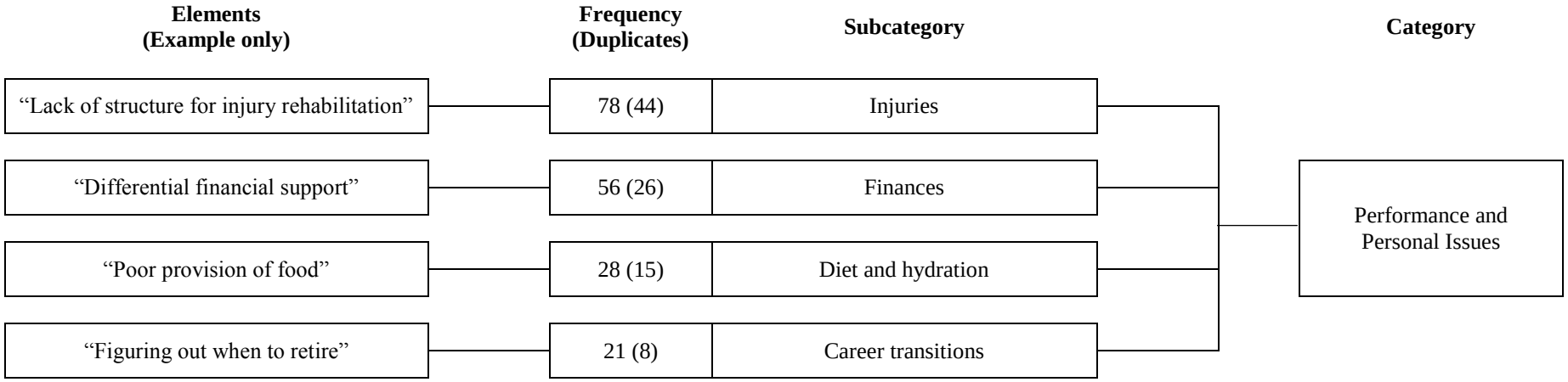

Figure 3.6. A Taxonomic Classification of the Organizational Stressors Encountered by Sport Performers: Performance and Personal Issues (Study One).

> like I'm really skinny or anything, but I'm definitely aware of it. I mean I have dreams about it sometimes. So it's hard having people look at my thigh and saying, "Oops, she's an eighth of an inch bigger" or something. It's hard . . . . Weight is continually on my mind. I am never, never allowed to be on a vacation. (Gould, Jackson, et al., 1993, p. 149)

The final subcategory within performance and personal issues related to career transitions. To elaborate, studies have repeatedly identified the stressors of "position insecurity", a "lack of opportunities to compete at desired levels", and the difficulties associated with attempting to "progress from non-elite to elite competitions". In addition to the stressors associated with progressing within sport, individuals have also encountered stressors relating to transitions out of sport, such as "figuring out when to retire" and "post career uncertainty".

3.4 DISCUSSION

Recent literature in sport psychology suggests that, to make a robust and substantive contribution to organizational stress research and theory, scholars should attempt more conceptually focused and integrative work (cf. Fletcher et al., 2006; Fletcher, Hanton, Mellalieu, et al., 2012). To accomplish this, a meta-interpretation was conducted to synthesise the wealth of research identifying the organizational stressors encountered by sport performers and develop a taxonomic classification. This study extends previous frameworks of organizational stress in three main ways. Firstly, while the structure of the existing two frameworks in this area (see Fletcher, Hanton, Mellalieu, et al., 2012; Woodman & Hardy, 2001a) has been based on a priori knowledge, this taxonomic classification is not heavily influenced by existing theory and is based solely on empirical data relating to the organizational stressors that sport performers encounter. Secondly, previous studies in this area have typically employed interview or survey techniques to explore the organizational stressors that are peculiar to a small, isolated sample. In contrast, this study identifies and organises the stressors encountered by 1809 participants who range in age, gender, nationality, sport, and standard. Thirdly, in contrast to Woodman and Hardy's (2001a) theoretical framework of 347 stressors, and Fletcher, Hanton, Mellalieu, et al.'s (2012) conceptual framework of 365 stressors, this study identifies 640 distinct organizational stressors that are classified into leadership and personnel, cultural and team, logistical and environmental, and performance and personal domains of an individual's sport participation

(see Figure 3.2). In comparison with Woodman and Hardy's (2001a) original theoretical framework, it is worth highlighting the new stressor themes reported in the present taxonomy, such as facilities, equipment, competition format, weather conditions, travel, rules and regulations, distractions, physical safety, technology, career transitions, cultural norms, spectators, the media, and performance feedback. Therefore, taken together, these advancements indicate that this study provides the most accurate, comprehensive, parsimonious, and externally valid conceptualisation of stressors in sport organizations to date. Although this meets critical criteria for advancing psychological theory (Klein & Zedeck, 2004), this is not to suggest that the current meta-interpretation provides the definitive account of organizational stressors; rather, this synthesis and taxonomy represents the author's interpretation of the research and, since sport organizations are complex and continually evolving (cf. Fletcher & Wagstaff, 2009), it is likely that new stressors will emerge in the future. Consequently, researchers may need to refine and extend the conceptualisation of organizational stressors and further explore the essence of this phenomenon.

A main finding to emerge from this study was that sport performers are confronted with numerous organizational stressors associated with their leadership and other personnel. Leaders play a pivotal role in creating an environment in which individuals can thrive and perform to their potential; however, as the findings suggest, a leader's behaviours (see also Skakon, Nielsen, Borg, & Guzman, 2010), leadership style (see also Lyons & Schneider, 2009), relationship with his/her subordinates (see also Tepper, 2000), personality, attitude, and expectations can be potential sources of strain. While there has been an abundance of research in sport psychology specifically examining the coach-athlete relationship (see, for a review, Jowett & Poczwardowski, 2007), the findings presented here highlight that sport performers not only encounter stressors relating to their coach, but also with the personnel who manage and support their participation in competitive sport and the people located on the periphery of the organizational context. This can perhaps be explained by the nature of a sport performer's role, in that it typically requires such an intensity of interaction with others, that they can find themselves not only managing their own attitudes and behaviours, but also being influenced by those of others. These findings support the review by Dewe et al. (2010), which established that a wide range of occupations require employees to interact with others on a regular basis and manage both their own emotions and those of others, leaving many workers feeling disengaged and emotionally exhausted.

The findings of this study illustrate that a sport performer's team and surrounding culture can be a breeding ground for organizational stressors. To elaborate, environmental stressors emanated from team mates' behaviours and interactions, communication, the team atmosphere, team mates' personalities and attitudes, roles, cultural norms, and goals. Shultz, Wang, and Olson (2010) have remarked that most research on work stress has focused on role overload and its association with work-related illness. While role overload emerged in the findings, sport performers also reported various other role-related stressors, including a lack of role awareness, limited role structure, and having to fulfil different roles. In an attempt to explain how role and other team and cultural stressors elicit strain for individuals, Gamero, González-Romá, and Peiró (2008) found that many of these group-related stressors can create task conflict, which involves members disagreeing about the content of their decisions, tasks, and procedures. If task conflict is not carefully managed, such as through mediation and support, it can evolve into relationship conflict between team members and, ultimately, increased stress and anxiety (Ilies, Johnson, Judge, & Keeney, 2011). In light of these findings, it is imperative that sport organizations address team and cultural issues, since not only can they create task and relationship conflict, but they can also influence individuals' satisfaction and commitment (Silverthorne, 2004), intention to leave a team or organization (Egan, Yang, & Bartlett, 2004), and performance (Chan, Shaffer, & Snape, 2004).

Turning to the logistical and environmental issues that sport performers encounter, the findings highlight that many of these stressors are related to the organization of operations for training or competition. More specifically, the operational elements of sport that generated organizational stressors for performers were facilities and equipment, selection, competition format, the structure of training, weather conditions, travel, accommodation, rules and regulations, distractions, physical safety, and technology. Since the logistical and environmental category in this meta-interpretation consisted of the most subcategories, it is clear that an organization's programs, planning, infrastructure, and strategies are a potential source of strain for performers, unless they have the appropriate resources to match and address these stressors (van den Tooren & de Jonge, 2010). In line with this observation, meso- and micro-level sport management research (see, e.g., DeBosscher, Bingham, Shibli, van Bottenburg, & DeKnop, 2008; DeBosscher, DeKnop, van Bottenburg, Shibli & Bingham, 2009; Sotiriadou & Shilbury, 2009) has demonstrated that organizations that do not consider and design effective sport policies, resource allocations, competitive programme structures, and specific facilities can negatively impact on athlete development and long-term

performance. As a result, organizations should identify and manage any policy, logistical, and environmental factors that can be potential sources of strain for individuals.

The findings of this study revealed that sport performers encounter a range of performance and personal issues. Performers reported certain organizational stressors that could directly affect their physical self, such as injury, diet, and hydration. Since an athlete's body plays such a crucial role in his or her performance (Howe, 2004; Young, 2004), it is not surprising that threats to one's physical self, stemming from the organization, represent a major environmental stressor. Indeed, research on high-risk occupational groups has shown that many of the physical risks and hazards associated with these jobs are perceived as pervasive sources of strain (see, e.g., Chen, Wong, Yu, Lin, & Cooper, 2003). This category in the results also highlights that sport performers encounter financial and career transition stressors. These stressors can restrict the amount of time or opportunities that performers have to develop their sporting abilities and reach their desired performance levels. It is important to note, however, that for some performers the stressor was not related to the amount of finances or opportunities that they received per se, but rather if the support they had was different to what others received, or was perceived to favour certain individuals more. These findings support Schaufeli and Peeters's (2000) review of stress in correctional officers, which indicated that rather than absolute finances, it is the perceived fairness in financial distribution that is linked to well-being and performance.

Each of the organizational stressor categories has been presented as a discrete unit in the taxonomy. From a theoretical perspective, it is important to recognise, however, the potential interface between, and interactive impact of, the stressor themes. Stressor research from industrial and organizational psychology has highlighted the importance of examining relationships between stressors, such as occupational versus personal stressors (commonly referred to as *work–life conflict*), since this can add another conceptual and psychosocial layer to individuals' stress experiences (Jones, Burke, & Westman, 2006). In the context of the current study and sport performers' lives, the following quote illustrates the interwoven nature of organizational stressors relating to team mates' behaviours and performance feedback:

> I lost the ball and he [a team mate] was all in my face and stuff and shouting at me and putting my confidence down and my head went down. I was worried about doing better next time because if I didn't I knew that he'd be in my face again. It dropped my confidence because he was shouting negative comments and I was down because I lost the ball. (Reeves et al., 2009, p. 38)

The frequency data reported in the taxonomic classification illustrate the number of elements and duplicates within each subcategory. On reflection and interpretation of these frequencies and the underlying links between categories, it appears that some organizational stressors are pervasive and permeate throughout an individual's sport experience (e.g., those stressors associated with the coach), manifesting themselves either directly (e.g., argument with coach) or indirectly (e.g., argument with coach leading to being dropped from the team), whereas other stressors are more peripheral to an individual's sport experience (e.g., lack of visible security). This interpretation has important theoretical and practical implications for stress management in sport, since it behoves sport psychologists to prioritise the significance and impact of the organizational stressors encountered by sport performers. Turning to the duplicates within the taxonomic classification, this information can also provide important insights, since it highlights the number of replica elements (organizational stressors) that have been raised by participants across various studies, thus indicating which stressors cohere (and also, therefore, those that contrast) across different sport performer's stress experiences. While practitioners can interpret the frequency data to inform their decision making, theorists should further investigate the interactions and relationships between the categories and subcategories presented in the taxonomy, and further explore how participants' stress experiences cohere and contrast.

The meta-interpretation method is a relatively new approach within sport psychology research; it is, therefore, worth considering some of its strengths and limitations. Weed (2005) stated that the value of a meta-interpretation can be determined by the extent to which it provides a total effect that is greater than the sum of the individual studies that it synthesises. In accordance with this statement, this study advances previous research in the area by synthesising 34 studies and 1809 participants' stress experiences to, most importantly, provide a taxonomic classification of stressors in sport organizations. Moreover, by employing this approach to qualitative research synthesis, this study has avoided isolationist and esoteric work (Silverman, 1997), provided a comprehensive insight into the existing knowledge base (Xu, 2008), generated more satisfactory answers to research questions (Weed, 2006), and produced accessible and powerful results (Finfgeld, 2003). Notwithstanding these strengths, it is important to acknowledge the limitations of this study. First, it could be argued that this study reflects a publication bias, since it only included published (and, at the time of analysis, in press) studies during the meta-interpretation process. This was because published studies are not only easier to locate and retrieve, but also

generally acknowledged to represent higher quality research than unpublished work due to the rigours of the peer review process (cf. Xu, 2008). Second, a meta-interpretation can detach researchers from direct contact with original research participants, by integrating previously analysed data. To avoid such interpretation problems, the author contacted the authors of some of the primary studies that were selected in the meta-interpretation process for clarification concerning the precise nature of certain stressors. Despite adopting this approach, some scholars (see, e.g., Sandelowski et al., 1997) have argued that synthesising qualitative studies can lose the integrity and vitality of the experiences represented in the original studies. Countering these arguments, Walsh and Downe (2005) stated that:

> It may be helpful to view the [qualitative research synthesis] process as opening up spaces for new insights and understandings to emerge, rather than one in which totalizing concepts are valued over richness and thickness of description. This would move the debate away from assumptions that the essence of phenomena has been revealed in a final, unarguable summary, and towards an appreciation that synthesis is an ever-expanding, boundary-breaking exercise. (p. 205)

With these remarks in mind, the meta-interpretation process has confirmed that sport psychology researchers have amassed a significant body of research about *what* organizational-related factors have the potential to cause strain in sport performers, but little is known about *how* and under what particular circumstances these stressors impact on well-being and performance. One explanation for this could be the tendency for researchers in this area to use interview methods (see Table 3.1). Although interviews typically encourage participants to provide in-depth information that resonates at a personal level and capture the subjective meaning in contextual situations (Kvale & Brinkmann, 2008), this approach is unable to ascertain whether there is a cause-and-effect relationship between variables, such as stress and well-being or performance. Future researchers should consider adopting alternative data collection and analysis techniques, including multivariate statistics, to more rigorously investigate the organizational stress process in competitive sport (see Chapters Four, Five, and Six). To move beyond the mere identification of environmental stressors, researchers should examine the different properties of stressors, such as the intensity, duration, prevalence, quantity, timing, specificity, and closeness (Fletcher et al., 2006), and the underlying properties of situations appraised as stressful, such as novelty, predictability, event uncertainty, imminence, duration, temporal uncertainty, ambiguity, and timing

(Thatcher & Day, 2008). By exploring these characteristics, researchers can elicit more insightful depictions of the organizational environment. This information could contribute to the much-needed design of a measurement indicator to assess organizational stressors (see Section 2.23; see also Chapter Four), so that, ultimately, researchers can focus the empirical lens on the intricate theoretical relationships that exist between organizational stress-related concepts (see Fletcher et al., 2006). A potential avenue for extending knowledge in this area involves examining the underlying mechanisms of the stressor-strain relationship (cf. Fletcher, Hanton, Mellalieu, et al., 2012). For instance, research on stress in the workplace (see, e.g., Oaten & Cheng, 2005; Schmidt, Neubach, & Heuer, 2007), has found that a lack of individual control over work is negatively correlated with job satisfaction and positively correlated with indicators of job strain, such as health complaints and impaired psychological well-being. In view of these findings, future sport psychology research should examine whether a sport performer's perceived level of control has an influence on the strain they experience. In addition to individual control, scholars should also examine ownership at a group level to ascertain if it has an influence on organizational stress. To elaborate, in the organizational behaviour literature, Pierce and Jussila (2010) recently introduced the concept of *collective psychological ownership*, which emerges when individuals in a group interact and develop a shared mind set for ownership over a particular aspect of their work. Although research has established that individual psychological ownership can produce positive and negative effects on a variety of organizational outcomes (see, for a review, Pierce, Kostova, & Dirks, 2003), future research is necessary to ascertain if there is a link between collective psychological ownership among sport performers and their organizational stress experiences.

This study has shown that organizational stressors emanate from a wide range of sources within the sport environment. It is surprising, therefore, that stress management interventions have typically focused on changing an individual's psychological reactions to stressors (Rumbold et al., 2012). Instead of viewing stress as a solely personal issue, sport organizations should acknowledge the full impact of their own processes and procedures in addressing this type of stress in sport performers. The stress management strategy used to reduce or eliminate stressors is commonly referred to as a primary stress management intervention (PSMI; see Section 2.144; see also Cox, 1993; Cox, Taris, & Nielson, 2010; Sutherland & Cooper, 2000). This proactive and preventative approach to managing stress typically seeks to make changes in the macro environment (e.g., organizational culture), the micro-environment (e.g., task redesign), or in worker's perceptions of control (e.g., enhanced decision-making opportunities) (see Section 2.144). When attempting to implement a PSMI,

sport psychology practitioners should draw on the lessons learned by general and organizational psychologists. For example, stress prevention programs have been developed to address sudden and unexpected events - known as *crises* - which can threaten to disrupt organizational operations (Coombs, 2007). Although not all organizational stressors in competitive sport could be classified as crises, the principles and techniques used in these prevention programs will likely transfer well to address many of the issues that emerged in the findings of this study (cf. Jaques, 2007, 2009; Pearson, Roux-Dufort, & Clair, 2007). To address crises, Jaques (2010) recommended that consultants guide organizations through four main stages which, when applied to sport psychology, would involve the following: proactively addressing the underlying causes of stressors, establishing effective mechanisms to recognise and respond to stressor warning signs, properly identifying the perspectives of stakeholders, and implementing systematic organization learning and unlearning.

To conclude, this study has synthesised the research identifying the organizational stressors encountered by sport performers. The results of this meta-interpretation are displayed in an innovative taxonomy, which illustrates that organizational stressors can be classified under four main categories: leadership and personnel issues, cultural and team issues, logistical and environmental issues, and performance and personal issues. Since the empirical data of 1809 sport performer's stress experiences has been synthesised to illustrate 640 distinct organizational stressors, it can be concluded that this study not only provides the most accurate, comprehensive, and parsimonious conceptualisation of stressors in sport organizations to date, but also its findings are valid, generalizable, and applicable to a large number and wide range of sport performers. In the context of the overall thesis, the taxonomy and findings presented in this chapter can provide a rigorous and robust foundation for the development of an assessment indicator (see Chapter Four), which can subsequently be used to ascertain individual demographic differences in organizational stressors (see Chapter Five) and observe (along with other measures) moderating influences on the organizational stress process in sport (see Chapter Six). Furthermore, the findings of this chapter contribute to theory in this area (see Section 7.21), have practical implications for working with sport performers (see Section 7.22), and can inform suggestions for future research (see Table 7.2).

4

STUDIES TWO-FIVE

THE DEVELOPMENT AND VALIDATION OF THE ORGANIZATIONAL STRESSOR INDICATOR FOR SPORT PERFORMERS (OSI-SP)[6,7]

The review of psychometric issues (see Section 2.2) and the synthesis and taxonomic classification outlined in Chapter Three can be used to inform the development and validation of a measure to assess the organizational stressors that sport performer encounter, which is the purpose of Chapter Four.

4.1 INTRODUCTION

Organizational stress has emerged as an important issue in sport performers' preparation for and performance in competition (Fletcher et al., 2006; Fletcher & Wagstaff, 2009). In their review of the area, Fletcher et al. (2006) defined organizational stress as "an on-going transaction between an individual and the environmental demands associated primarily and directly with the organization within which he or she is operating" (p. 329; see also Section 2.13) and highlighted organizational-related stressors as a salient component of the stress process in sport. To illustrate the prevalence of these stressors in competitive sport, Chapter Three reports a research synthesis of 34 studies that have identified the organizational stressors that sport performers encounter, identifying 640 distinct stressors. A taxonomic classification of these stressors is proffered with 31 subcategories and four main categories: leadership and personnel, cultural and team, logistical and environmental, and performance and personal issues (see Figure 3.2).

Although much is known about the organizational stressors that sport performers

[6] Arnold, R., Fletcher, D., & Daniels, K. (under review). Development and validation of the Organizational Stressor Indicator for Sport Performers (OSI-SP*). Journal of Sport and Exercise Psychology*.

[7] Arnold, R., Fletcher, D., & Daniels, K. (2012, July). *Development and initial validation of the Organizational Stressor Indicator for Sport Performers (OSI-SP).* Paper session presented at the meeting of the International Convention on Science, Education, and Medicine in Sport, Glasgow, Scotland. Following this presentation, the author was awarded the ICSEMIS Young Investigator Award (Oral Presentation Prize).

encounter, scholars have yet to develop a method of assessing these phenomena. Researchers have attempted to measure the daily hassles that athletes experience (Albinson & Pearce, 1998; Rushall, 1987), but this work did not specifically focus on organizational stressors and has not been exposed to rigorous psychometric testing. These issues are problematic, since as Fletcher and Hanton (2003b) concluded "it will be very difficult to make significant advances in psychologists' understanding [of organizational stress in competitive sport] without a valid and reliable measurement tool" (p. 192; see also Hanton et al., 2005). Following Fletcher et al.'s (2006) observation that "researchers are now at a critical stage in building a body of knowledge; namely, that there exists an urgent need to develop a comprehensive measure of organizational stress in sport performers" (p. 354), Kristiansen, Halvari et al. (2012) recently developed measures to assess perceived coach-athlete and media-related stressors. These scales, however, only measure two of the possible 31 subcategories of organizational stressors identified in Chapter Three; therefore, to better understand sport performers' organizational stress experiences, a measure still needs to be developed that assesses a broader range of organizational issues (Kristiansen, Halvari et al., 2012). When developing this measure, sport psychology researchers should reflect on the four main areas of psychometric issues identified in Section 2.2 (see Table 4.1; see also Campbell-Quick, 1998; Rick et al., 2001).

While it would be repetitive to provide a further discussion in this chapter of all the areas and recommendations shown in Table 4.1, it is worth briefly elaborating on the conceptual and theoretical issues since these will underpin the initial design of an assessment tool. Fletcher and colleagues (Fletcher & Fletcher, 2005; Fletcher et al., 2006; Fletcher & Scott, 2010) developed a meta-model that, in line with the transactional conceptualisation of stress (cf. Cox, 1978; Lazarus & Launier, 1978), offers a theoretical explanation of the relationships among stress, emotions, and performance (see Section 2.14). When applying this model to organizational stress, it has been suggested that the most significant hindrance to testing its proposals has been the lack of a valid and reliable means of assessing the organizational stress encountered by sport performers (cf. Fletcher & Hanton, 2003b; Fletcher et al., 2006; Hanton et al., 2005; Kristiansen, Halvari et al., 2012). It is also apparent from the meta-model (cf. Fletcher et al., 2006) that, when measuring organizational stress, researchers should ultimately strive to provide a comprehensive assessment of the overall stress phenomenon, including stressors, appraisals, responses, feeling states, coping, and outcomes. However, as Lazarus (1990) recognised, attempting to take this holistic approach will "pose great difficulties for stress measurement . . . . [and] the search for a single

Table 4.1. *Main Psychometric Issues and Recommendations for Developing a Measure of Organizational Stressors.*

Main Area	Recommendation
Conceptual and Theoretical Issues	A commonly accepted definition of stress is required before meaningful measurement can commence. In view of the continual interplay that exists between the individual and their surrounding environment, it is suggested that researchers adopt a transactional conceptualisation of stress.
	Measurement that springs from theory can provide scholars with a greater understanding of stress concepts and their findings. As a result, researchers should establish or locate a theory explaining the nature of stress that can be used to inform measurement.
	Ideally when measuring stress, researchers should attempt to assess the whole stress phenomenon; however, this can pose significant difficulties for stress measurement. In view of this, researchers should be clear about what they are measuring and perhaps generate a series of measures that assess the main components of the stress process and the relationships among them.
Item Development Issues	Measures should recognise the temporal course of the stress phenomenon, distinguish between acute and chronic stressors, and emphasise both types of stressor.
	When developing items, researchers should remain inclusive and attempt to develop a large item pool that captures all facets of the concept under consideration.
	Careful attention should be paid to the wording and phraseology of items, ensuring that they have contemporary relevance.
	Measures of organizational stressors should incorporate both general and specific items in order to enhance ecological validity and enable comparisons across sports.
Measurement and Scoring Issues	Researchers should be aware of the objective versus subjective measurement debate, recognise the limitations of their chosen method and, in an effort to negate these, consider adopting a triangulation strategy.
	The extent of each stressor should be measured by exploring the complexities of performer organization transactions and assessing multiple dimensions of stressors.
	Researchers should consider the most appropriate response format for their questionnaire and the optimal number, wording, and layout of response options.
	Additive scoring methods should be used to assess the independent effects of diverse groups of stressors and not lose sight of individuals as complex human beings.
Analytical and Statistical Issues	When validating a questionnaire, scholars should pay careful attention to sample selection and ascertain if the spread of the data deviates from a normal distribution.
	The factor structure of a questionnaire and the loadings of items onto factors should be examined. Factor rotation is then typically used to ensure that variables are loaded maximally to only one factor; therefore, making interpretation easier.
	A large sample size should be selected for confirmatory factor analysis, to check that the pre-identified model structure is reliable.
	The effects of background, occasion, and non-constant confounding variables should be measured and controlled for where possible.

satisfactory measure is doomed to failure" (p. 4). As a result of this observation, Section 2.21 recommends that rather than attempting to develop a single measure of organizational stress, it is perhaps more pragmatic to develop a series of measures that assess the main components of the stress process and capture the relationships between them. Therefore, it seems logical for scholars to begin by developing a measure to assess the stimulus of the organizational stress process in sport - namely the organizational stressors that sport performers encounter - before progressing to other components. An important consideration when assessing this component of the stress process is capturing the multidimensional nature of stressors, including the frequency (frequent versus infrequent), intensity (high versus low demand), and duration (acute versus chronic) of stress-related encounters (see Section 2.23).

This chapter reports the development and validation of a measure of the organizational stressors encountered by sport performers via a series of related studies. The purpose of Study Two was to provide evidence for the content validity of an organizational stressor item pool and gauge how applicable the items were to sport performers. The aim of Study Three was to analyse the factorial composition of the emergent items via an exploratory factor analysis (EFA). The purpose of Study Four was to use a confirmatory factor analysis (CFA) to cross-validate the findings of the EFA with a different sample of sport performers. The aim of Study Five was to use another sample to cross-validate the structure of the measure. The final study in this chapter also examined the relationships between organizational stressors and other relevant concepts, and investigated if the components of the measurement model were invariant across different groups.

4.2 STUDY TWO

The first objective of Study Two was to create a pool of items that comprehensively captured the organizational stressors encountered by sport performers and provide evidence for its content validity. This type of validity is an important aspect of scale development and pertains to whether items are relevant to and representative of the targeted construct being measured (Haynes et al., 1995). Secondly, this study aimed to gauge how applicable the developed items were to sport performers.

4.21 METHOD

4.211 Participants

To evaluate the content validity of the items, 28 individuals were recruited to be in an

expert panel. This panel comprised academics in sport and organizational psychology, practicing sport psychologists, PhD research students, and sport performers (see Table 4.2). To explore the second objective of this study, a separate usability panel of ten sport performers was recruited (see Table 4.2).

4.212 Measure

A three-part measurement indicator was developed underpinned by Fletcher et al.'s (2006) definition of organizational stressors - "environmental demands (i.e., stimuli) associated primarily and directly with the organization within which an individual is operating" (p. 329; see also Section 2.13) - and based on the taxonomic classification of the organizational stressors encountered by sport performers that is presented in Chapter Three. In all parts of the indicator, the stem "In the past month, I have experienced pressure relating to…" was presented to which the participants responded on three rating scales (frequency, intensity, and duration)[8]. Part A of the indicator contained 31 items reflecting the subcategories in the taxonomic classification. Part B consisted of 474 items that assessed the elements (stressors) within the subcategories. Although the taxonomic classification in Chapter Three includes 640 stressors, some items in Part B were worded in such a way that they covered more than one of the original stressors, in order to keep the length of the indicator practical. For example, the stressors "I have limited autonomy in my training regime" and "my coach designs training with little input from me" were both measured by the item "I have limited input into my training regime". Respondents were not required to complete all 474 items in Part B; rather, to keep their task manageable, they summated their frequency, intensity, and duration scores for each item in Part A and only answered their five highest scoring sections in Part B. Part C encouraged respondents to express any other organizational stressors that they had encountered which were not captured in the previous parts.

4.213 Procedure

To keep their task manageable, the 28 expert panel members were divided into six groups of approximately equal size. Each member was sent an expert panel pack (specific to

[8] Based on discussions with sport performers and academics, the term 'pressure' was used in the instructions for the indicator, since the word 'stressor' was deemed too academic, complex, and not as user-friendly. Pressure was defined in the indicator so that performers would be clear on what the indicator was referring to and measuring (see Appendix One).

Table 4.2. *Participant Characteristics (Studies Two, Three, Four, and Five*).

	Study Two: Expert Panel	Study Two: Usability Panel	Study Three	Study Four	Study Five
N	28	10	606	350	321
Male	15	6	259	212	174
Female	13	4	347	138	146
Unknown Gender	0	0	0	0	1
M_{age} (SD)	30.99 (8.45)	27.49 (8.16)	22.32 (5.36)	28.10 (12.29)	29.92 (12.82)
Age Range	21 - 56	20 - 43	18 - 61	18 - 74	18 - 78
Number of Nationalities	6	3	19	14	20
Number of Sports	10	7	39	38	33
Sport Type					
Team	4	2	16	14	14
Individual	2	4	18	17	11
Team and Individual Based	4	1	5	7	8
Competitive Level					
Club	5	3	163	138	131
County	3	1	35	14	16
Junior National	0	0	19	22	9
State/Regional	0	1	27	14	32
Collegiate/University	5	1	209	68	49
Senior National	0	1	62	52	35
International	2	3	90	42	48
Other	13	0	0	0	0
Unknown Level	0	0	1	0	1
M_{time} Competing (SD)	14.56 years (7.47)	19.86 years (9.08)	10.69 years (5.93)	11.37 years (9.26)	13.45 years (11.53)
Range of Time Competing	6 - 46 years	10 - 35 years	2 months - 56 years	2 months - 57 years	2 months - 65 years
Academics - M_{time} Worked in Academia (SD)	5.36 years (7.01)	Not applicable	Not applicable	Not applicable	Not applicable
Academics - Range of Time Worked in Academia	1 month - 30 years	Not applicable	Not applicable	Not applicable	Not applicable
Academics - Range of Publications Published in an International Peer Reviewed Journal	1 - 150	Not applicable	Not applicable	Not applicable	Not applicable
Academics - Number that have Researched Organizational Stress	4	Not applicable	Not applicable	Not applicable	Not applicable
Sport Psychologists - Total Number of Sports Supported	30	Not applicable	Not applicable	Not applicable	Not applicable
Sport Psychologists - M_{time} Providing Psychological Support (SD)	3.19 years (4.68)	Not applicable	Not applicable	Not applicable	Not applicable

their group), which consisted of approximately five items from Part A and the related items in these five sections in Part B (see Appendix One for an example expert panel pack). For each item in their pack, experts were asked to rate the relevance ("does this question potentially relate to the sport organization environment?" for Part A and "does this question reflect the pressures relating to [stressor category]" for Part B), clarity ("is this question easily understood" for both Parts), and specificity ("is this question general enough to capture all the related pressures in this area" for Part A and "is this question specific enough" for Part B) by indicating 'yes', 'no', or 'maybe' on the response options (cf. Dunn et al., 1999). In addition, experts were provided with the opportunity to write specific comments on each item and general comments on the indicator. Collecting both quantitative ratings and qualitative comments enabled the researchers to assess the items' content-relevance, so that they could be revised as necessary (Dunn et al., 1999; Haynes et al., 1995). The sport performer usability panel was provided with all three parts of the indicator (see Appendix Two for an example usability panel pack). Following completion, the performers were invited to suggest any additions, deletions, or modifications, and were asked questions about the indicator's readability, comprehension, difficulty, suitability to sport performers, format, presentation, flow, and rating scale usability.

4.22 RESULTS

Nine of the 31 items in Part A (29.0%) received unanimous endorsement from the expert panel regarding their relevance, clarity, and specificity; therefore, these items remained the same. A further 12 items in Part A (38.7%) also remained unchanged, since they were viewed as relevant, clear, and specific by >75% of the raters. The remaining 10 items in Part A (32.3%) received endorsement by <75% of the raters; therefore, these items were subsequently modified or deleted. For Part B, all raters unanimously endorsed 170 items (35.9%) and 196 items (41.4%) were rated as relevant, clear, and specific by >75% of the expert panel. 108 items in Part B (22.8%) received endorsement from <75% of the raters and were therefore modified or deleted. Although these results suggest that the majority (i.e., 366, 77.2%) of items should remain unchanged in Part B, the qualitative comments from the expert panels and sport performers suggested that calculating scores for Part A and completing Parts B and C was too taxing and time consuming. As a result, although Parts B and C were deemed helpful for sport psychology practitioners in diagnosing organizational stressors, the indicator was shortened considerably. Specifically, Parts B and C were removed

and items in Part A were modified and extended to include approximately five items reflecting each subcategory of the organizational stressor taxonomy (see Chapter Three). The stem and rating scales remained the same.

The result of this process was a revised 160-item Part A, which was sent to a random sample from the original expert panel (n = 10) who were asked to rate the relevance, clarity, and specificity of each item. Based on this feedback, approximately three of the most relevant, clear, and specific items were selected for each of the 31 subcategories. Furthermore, feedback indicated that some alterations were required to the wording and format of the stem and response scales (see Appendix Three). These modifications produced a revised 96-item questionnaire, which was named the Organizational Stressor Indicator for Sport Performers (OSI-SP) (see Appendix Three). The indicator was returned to the sport performer usability panel to complete and provide feedback. Following some minor changes to the wording of items and the indicator's presentation, the author deemed that the 96-item OSI-SP was clear and applicable to the sport context and, therefore, ready for psychometric evaluation with a larger sample.

4.3 STUDY THREE

The purpose of Study Three was to analyse the factorial composition of the 96-item OSI-SP with an EFA.

4.31 METHOD

4.311 Participants

For participant details, see Table 4.2.

4.312 Measure

The 96-item OSI-SP produced in Study Two was distributed to participants (see Appendix Three). The stem "In the past month, I have experienced pressure associated with…" was presented to which the participants responded on three rating scales with options ranging from zero to five. These scales were: frequency ("how often did this pressure place a demand on you") (0 = *never*, 5 = *always*), intensity ("how demanding was this pressure") (0 = *no demand*, 5 = *very high*), and duration ("how long did this pressure place a demand on you for?") (0 = *no time*, 5 = *a very long time*).

4.313 Procedure

Following ethical approval from the author's university ethics committee, participants were contacted and invited to participate. Participants were recruited by contacting sport performers directly or via enquiries with coaches, clubs, sport organizations, universities, and event organisers. Data collection took place using both online (n = 293) and paper (n = 313) versions of the OSI-SP[9]. The instructions at the start of the OSI-SP told participants that the indicator examined pressures experienced as part of participation in competitive sport over the past month. Furthermore, the instructions informed participants that honesty and openness was encouraged, and that individuals representing more than one team should complete the OSI-SP with reference to the team they had most frequently competed for over the past month. In addition, the instructions explained that any personally identifiable information would be kept strictly confidential and, apart from the researchers, no one would have access to any personal responses. Participants signed an informed consent sheet prior to completing the OSI-SP.

4.32 RESULTS

4.321 Preliminary Analyses

The univariate skewness values of the 96 items ranged from -.43 to 2.16 and the univariate kurtosis values ranged from -1.25 to 4.39. Only 0.47% of the possible data points were missing and no variable in the OSI-SP had >5% missing data; therefore, any data not present were assumed to be missing at random (cf. Tabachnick & Fidell, 2001). The expectation maximisation algorithm was used to impute missing values. Following this imputation, the correlation matrix was examined to determine the suitability of the data for EFA. Given that Bartlett's test of sphericity suggested item interdependence (frequency χ^2 = 39715.58, intensity χ^2 = 37152.22, duration χ^2 = 37800.26, $p < .01$), and that an acceptable Kaiser-Meyer-Olkin (KMO) sampling adequacy statistic was observed (frequency = .95, intensity = .95, duration = .96), the OSI-SP correlation matrix was deemed suitable for EFA.

[9] Part of the recruitment in this study (and Studies Four, Five, Six, and Seven) was via email enquiries to coaches and club contacts (who subsequently forwarded on the indicator or the online link to sport performers). As a result, it was not possible to determine the total number of people that were asked to participate in the studies or, therefore, a response rate.

4.322 Main Analyses

Since there were 96 items for each of the three rating scales (frequency, intensity, and duration), item parcelling was utilised to reduce the number of variables and keep the model's degrees of freedom reasonable (Little, Cunningham, Shahar, & Widaman, 2002). Three items were allocated to each parcel and these were grouped according to the content of the items (cf. Bandalos & Finney, 2001). Following this parcelling, principal axis factor analysis was conducted with a direct oblimin rotation. An oblique rotation method was used since it was unlikely that the underlying factors of organizational stressors would be unrelated. Factor extraction was based on an eigenvalue of >1.0 (Kaiser, 1960) and inspection of the Scree plot. This combination was deemed appropriate, since solely adopting Kaiser's criterion may lead to the retention of factors with no practical significance (Stevens, 2002). To interpret the extracted factors, Stevens (2002) suggested that the coefficient criterion adopted should reflect the size of the sample; therefore, this value was .21 based on the sample of 606 sport performers. In addition, all items with high cross-loadings (i.e., primary loadings of >.50 and secondary loadings of >.32) were omitted.

By applying the aforementioned criteria to the pattern matrix, a five factor solution for the parcels was found. At this stage, it is important to note that this solution was not identical for the frequency, intensity, and duration response scale datasets; therefore, allowing the identification of those parcels that were consistent across datasets (e.g., those which fitted into clear factors and were loaded to criteria across the frequency, intensity, and duration response scales) and those which behaved in an inconsistent manner. For any inconsistent parcels, the constituent items were analysed individually to ascertain if they would form a coherent factor on their own. By removing non-pure parcels and creating new factors, a factor structure that was consistent across all three datasets was identified. To see if all the items were required, following the confirmation of the factor structure at a parcel level, each item's contribution to the reliability of the parcels was observed, alongside its coefficient criterion and cross-loadings in a sequence of EFAs. To decide on items for removal, any item which did not meet the aforementioned criteria or contribute reliably to a factor was omitted in unison across all three response scale datasets. Applying these criteria resulted in 63 items being removed. The decision to omit items across all of the datasets was made because the frequency, intensity, and duration of organizational stressors are all reflective of underlying organizational processes; thus necessitating the same factor structure.

Following removal of the items, a further EFA was run to confirm that the selected 33

items were producing a factor structure that was in accordance with the original parceling solution and consistent across all response scale datasets. This was the case and the final solution contained 33 items that loaded onto five factors and accounted for 53.64% of variance in the frequency solution, 52.10% in the intensity solution, and 52.98% in the duration solution. Factor one, labelled Goals and Development, consisted of eight items that encapsulated the organizational stressors associated with an individual's feedback, progression, and transitions within his or her sport. Factor two, labelled Logistics and Operations, consisted of 13 items that encapsulated the organizational stressors associated with the arrangement and implementation of procedures for training and/or competition. Factor three, labelled Team and Culture, consisted of six items that encapsulated the organizational stressors associated with the attitudes and behavior within the team. Factor four, labelled Coaching, consisted of three items that encapsulated the organizational stressors associated with the coach's personality and interpersonal skills. Factor five, labelled Selection, consisted of three items that encapsulated the organizational stressors associated with how sport performers were chosen for teams and/or competitions. Correlations between the factors ranged from .12 to .49 and all of the factors produced internally consistent scales ($\alpha > .81$).

To further assess the internal reliability of the OSI-SP, item analysis was conducted following EFA (DeVellis, 2003). To test each item, the following criteria were adopted: (a) a minimum corrected item-total correlation coefficient of $r = .40$ and (b) an inter-item correlation between $r = .20$ and $r = .70$ (Kidder & Judd, 1986). Thirty two of the items fulfilled the first criteria, and the one that did not had an item-total correlation coefficient of .39. For the second criteria, eight inter-item correlations (out of a potential 426) did not fall within the .20 to .70 range; however, they did fall between .17 and .79. In view of the small amount of violations and the exploratory nature of this study, all items were retained for further analysis.

4.323 Rating Scale Correlations

After the reliability of the factors and items had been established, the correlations between the frequency, intensity, and duration rating scales for each factor were examined. For each of the five factors (15 factor scores), *r* ranged from .85 to .91 (95% CI [.83, .93]). Since the correlations were all <1.00 (and the 95% CI does not cover one) it was clear at this stage that the frequency, intensity, and duration rating scales are highly related but

distinctive; therefore, all three were retained for further testing in Studies Four and Five.

4.4 STUDY FOUR

The purpose of Study Four was to cross-validate the findings of Study Three using a CFA and, if necessary, further refine the structure of the OSI-SP.

4.41 METHOD

4.411 Participants

For participant details, see Table 4.2.

4.412 Measure

The 33-item OSI-SP, as described in Study Three, was distributed to participants (see Appendix Four).

4.413 Procedure

The procedures were the same as those outlined in Study Three. Both online (n = 127) and paper (n = 223) versions of the OSI-SP were distributed and collected.

4.414 Data Analysis

The 33-item OSI-SP was analysed with CFA using EQS 6.1 (Bentler & Wu, 2002). One item from each of the five factors was fixed to 1.0 for the purposes of identification and latent variable scaling. In line with recommendations in this area (cf. Byrne, 2006; Hu & Bentler, 1999), multiple fit indices were used to evaluate the adequacy of the model to the data. These included the chi-square statistic, the comparative fit index (CFI; Bentler, 1990), the Bentler-Bonnett non-normed fit index (NNFI; Bentler & Bonnett, 1980), the standardized root mean residual (SRMR; Hu & Bentler, 1998), and the root mean square error of approximation (RMSEA; Steiger, 1990). It is generally accepted that an adequate fit between the data and hypothesised model is indicated by SRMR values of around .08 and RMSEA values of around .06 (Hu & Bentler, 1999). For the CFI, a value of >.90 was originally considered acceptable (Bentler, 1992); however, Hu and Bentler (1999) proposed a revised cut-off value of close to .95. Values for the NNFI can fall outside of the zero to 1.00 range

(Byrne, 2006); however, since the NNFI is a variant of the normed fit index (NFI), values for the NNFI should meet the above CFI guidelines to be considered acceptable. In this study, these values were used as guides rather than absolute values (cf. Marsh, Hau, & Wen, 2004). In addition to these fit indices, modification indices, standardised residuals, and standardised factor loadings were analysed for model misspecification. Any items that displayed a large standardised residual (>|2.00|) or standardised factor loadings below .40 were considered for removal.

4.42 RESULTS

4.421 Preliminary Analyses

Only 0.09% of the possible data points were missing and no variable in the OSI-SP had >5% of missing data; therefore, any data not present were assumed to be missing at random. The expectation maximisation algorithm was used to impute missing values. The univariate skewness values of the 33 items ranged from -.40 to 2.03 and the univariate kurtosis values ranged from -1.26 to 4.60. For multivariate kurtosis, Mardia's normalized coefficients indicated that the data departed from multivariate normality (e.g., frequency = 32.59, intensity = 32.59, duration = 38.93). Therefore, in an attempt to correct for non-normality, all CFAs were conducted using the robust maximum likelihood (ML) estimation procedure with a Satorra-Bentler correction (S-Bχ^2; cf. Bentler & Wu, 2002; West, Finch, & Curran, 1995), and fit indices corrected for robust estimation.

4.422 Main Analyses

Results of the initial CFA with correlated factors suggested that modifications were required: Frequency S-Bχ^2 (485) = 992.11, $p < .001$, CFI = .87, NNFI = .86, SRMR = .07, RMSEA = .06, Intensity S-Bχ^2 (485) = 1111.06, $p < .001$, CFI = .86, NNFI = .84, SRMR = .07, RMSEA = .06, and Duration S-Bχ^2 (485) = 1059.72, $p < .001$, CFI = .86, NNFI = .84, SRMR = .07, RMSEA = .05. Therefore, in a sequence of CFAs, ten problematic items were subsequently removed based on an examination of the modification indices, standardised residuals, and standardised factor loadings. Excluding these ten items improved the fit of the model to the data: Frequency S-Bχ^2 (220) = 345.08, $p < .001$, CFI = .95, NNFI = .94, SRMR = .05, RMSEA = .04, Intensity S-Bχ^2 (220) = 383.05, $p < .001$, CFI = .94, NNFI = .93, SRMR = .05, RMSEA = .05, and Duration S-Bχ^2 (220) = 386.00, $p < .001$, CFI = .93, NNFI = .92, SRMR = .05, RMSEA = .05. These values indicate that the model is acceptable for the

frequency, intensity, and duration scales if adopting the SRMR, RMSEA and original CFI guidelines (cf. Bentler, 1992). In accordance with Hu and Bentler's (1999) revised CFI cut-off value of .95, the model displays an acceptable fit to the frequency scale and is close to acceptable values for the intensity and duration scales.

Correlations between the five frequency, five intensity, and five duration latent variables ranged from .47 to .74 (95% CI [.28, .83]). Since none of these values or their 95% CI range encompass 1.00, this finding provides evidence for the discriminant validity of the factors. Regarding reliability, the majority of the factors were internally consistent (α >.74). The only exception was the goals and development factor within the intensity scale (α = .65); however, this factor was internally consistent (α >.74) for both the frequency and duration scales. To provide further evidence for internal reliability, all items were assessed against the aforementioned Kidder and Judd (1986) item analysis criteria. Out of the final 23 items, three did not display a minimum corrected item-total correlation coefficient of r = .40, and 17 inter-item correlations (out of a potential 59) fell below the minimum value of r = .20, displaying values that ranged from .12 to .19. In view of the small amount of item violations and the model displaying adequate fit, all 23 items were retained within the final OSI-SP.

As suggested in the CFA literature (cf. Byrne, 2006; Jackson, Gillaspy, & Purc-Stephenson, 2009), alternative models were run to determine if the first-order, five-factor model demonstrated the best fit to the observed data. Firstly, a hierarchical model was tested in which the five first-order factors were represented by one higher-order factor. The fit of the hierarchical measurement model was better than the five-factor, first-order, 33-item model, but worse than the 23-item model: Frequency S-Bχ^2 (225) = 380.50, p < .001, CFI = .93, NNFI = .92, SRMR = .06, RMSEA = .04, Intensity S-Bχ^2 (225) = 417.04, p < .001, CFI = .93, NNFI = .92, SRMR = .06, RMSEA = .05, and Duration S-Bχ^2 (225) = 423.62, p < .001, CFI = .92, NNFI = .91, SRMR = .06, RMSEA = .05. Secondly, a one-factor model was tested, which produced a very poor fit to the data: Frequency S-Bχ^2 (230) = 856.72, p < .001, CFI = .73, NNFI = .70, SRMR = .08, RMSEA = .09, Intensity S-Bχ^2 (230) = 922.87, p < .001, CFI = .73, NNFI = .70, SRMR = .09, RMSEA = .09, and Duration S-Bχ^2 (230) = 891.62, p < .001, CFI = .72, NNFI = .70, SRMR = .09, RMSEA = .09. The implications of these findings will be discussed in Section 4.6.

4.5 STUDY FIVE

The first purpose of Study Five was to cross-validate the five-factor model supported

in Study Four. Secondly, this study examined if components of the measurement model were invariant across different groups. Thirdly, Study Five examined the concurrent validity of the OSI-SP by investigating the relationships between organizational stressors and other relevant concepts.

4.51 METHOD

4.511 Participants

For participant details, see Table 4.2.

4.512 Measures

4.5121 Organizational Stressor Indicator for Sport Performers (OSI-SP)

The 23-item OSI-SP, as described in Study Four, was distributed to participants (see Appendix Five).

4.5122 Sport Emotion Questionnaire (SEQ)

Sport performers' emotions were measured using all 22 items from the SEQ (Jones, et al., 2005) (see Appendix Four). The five subscales on the SEQ are anxiety (five items), dejection (five items), anger (four items), excitement (four items), and happiness (four items). On a 5-point Likert-type scale, that ranged from 0 (*not at all*) to 4 (*extremely*), participants were required to indicate how their participation in competitive sport over the past month had made them feel. All of the subscales were internally consistent (α = .77 to .87).

4.5123 Athlete Satisfaction Questionnaire (ASQ)

Sport performers' satisfaction was measured using six items from the ASQ (Riemer & Chelladurai, 1998) (see Appendix Four). Three of these items related to individual performance and three to team performance. For each item, performers were provided with a 7-point Likert-type scale that ranged from 1 (*not at all satisfied*) to 7 (*extremely satisfied*). Both of the subscales displayed acceptable internal consistency (α = .78 to .86).

4.5124 The Perceived Available Support in Sport Questionnaire (PASS-Q)

Sport performers' perceptions of available support were measured using the tangible support subscale from the PASS-Q (Freeman, Coffee, & Rees, 2011) (see Appendix Four).

For each of the four items, a 5-point Likert-type scale that ranged from 0 (*not at all*) to 4 (*extremely*) was used to assess the extent to which performers felt they had each type of support available to them. The subscale was internally consistent (α = .87).

4.5125 The Group Environment Questionnaire (GEQ)

Sport performers' perceptions of their group environments were measured using eight items from the GEQ (Widmeyer, Brawley, & Carron, 1985) (see Appendix Four). Two items were taken from the attraction to group task subscale, two from the attraction to group social subscale, two from the group integration task subscale, and two from the group integration social subscale. Performers were required to answer each item on a scale of 1 (*strongest agreement*) to 9 (*strongest disagreement*). The internal consistency of the four subscales ranged from .45 to .70.

4.5126 The Coach Athlete Relationship Questionnaire (CART-Q)

The perceived relationship between a sport performer and his or her coach was measured using the CART-Q (Jowett & Ntoumanis, 2004) (see Appendix Four). Participants were instructed to respond to all 11 items with their principal coach in mind on a 7-point Likert-type scale, that ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). All of the subscales (closeness, commitment, and complementarity) were internally consistent (α = .86 to .93).

4.513 Procedure

The procedures remained the same as those outlined in Studies Three and Four. Both online (n = 283) and paper (n = 38) versions of the OSI-SP were distributed and collected. In addition, the SEQ was completed by participants in Studies Three, Four, and Five (n = 1277) and the ASQ, PASS-Q, GEQ, and CART-Q were completed by participants in Studies Four and Five (n = 671).

4.52 RESULTS

4.521 Confirmatory Factor Analyses

The 23-item five-factor solution was analysed with CFA using EQS 6.1 (Bentler & Wu, 2002). The model displayed an acceptable fit to the data if adopting the SRMR, RMSEA

and original CFI guidelines (cf. Bentler, 1992): Frequency S-Bχ^2 (220) = 335.16, $p < .001$, CFI = .95, NNFI = .94, SRMR = .05, RMSEA = .04, Intensity S-Bχ^2 (220) = 341.11, $p < .001$, CFI = .94, NNFI = .93, SRMR = .05, RMSEA = .04, and Duration S-Bχ^2 (220) = 331.21, $p < .001$, CFI = .94, NNFI = .94, SRMR = .06, RMSEA = .04. Furthermore, the model displays an acceptable fit to the frequency scale and is close to acceptable values for the intensity and duration scales if adopting Hu and Bentler's (1999) revised CFI cut-off value of .95. These results confirm the validity of the factorial model.

Table 4.3 displays item means, standard deviations, and standardised factor loadings for the final 23-item solution. All five subscales demonstrated acceptable internal consistency (frequency α = .75 to .85, intensity α = .71 to .83, and duration α = .74 to .83). The fit values for the hierarchical measurement model were: Frequency S-Bχ^2 (225) = 357.20, $p < .001$, CFI = .94, NNFI = .93, SRMR = .06, RMSEA = .04, Intensity S-Bχ^2 (225) = 372.01, $p < .001$, CFI = .93, NNFI = .92, SRMR = .06, RMSEA = .05, and Duration S-Bχ^2 (225) = 347.11, $p < .001$, CFI = .94, NNFI = .93, SRMR = .06, RMSEA = .04. The implications of these findings will be discussed in Section 4.6.

4.522 Rating Scale Correlations

This study also further tested the frequency, intensity, and duration rating scales with the data from Study Four and Five participants (n = 671). For each of the five factors on the frequency, intensity, and duration scales (15 factor scores), latent variable correlations ranged from r = .80 to .91 (95% CI [.76, .93]). Similar to Study Two, these correlations and 95% CIs suggest that the rating scales are distinct. However, a further CFA was conducted to confirm this. Therefore, for each factor, a Sattora-Bentler difference test (ΔS-B χ^2; Sattora & Bentler, 2001) was used to compare an unconstrained model and three constrained models: (a) a model in which frequency and intensity scales from the same factor were constrained to have a correlation of 1.00; (b) a model in which frequency and duration scales from the same factor were constrained to have a correlation of 1.00; and (c) a model in which intensity and duration scales from the same factor were constrained to have a correlation of 1.00. Since latent variables are unobserved and have no definitive metric scale (cf. Byrne, 2006), factor variances were constrained to 1.00 for the purposes of identification. Out of the 15 ΔS-B χ^2 scores calculated, three were significant at $p < .05$ and two at $p < .01$. The implications of these findings will be discussed in Section 4.6.

Table 4.3. *Item Means, Standard Deviations, Factor Loadings, and Skewness and Kurtosis Values Following CFA for Frequency, Intensity, and Duration Scales (Study Five).*

OSI-SP Subscale and Item	Frequency					Intensity					Duration				
	M	SD	Loading	Skewness	Kurtosis	M	SD	Loading	Skewness	Kurtosis	M	SD	Loading	Skewness	Kurtosis
Goals and Development															
The spectators that watch me perform	1.60	1.26	.50	.60	-.04	1.83	1.46	.55	.25	-1.07	1.60	1.24	.51	.28	-.74
My goals	2.69	1.43	.66	-.20	-.73	2.71	1.46	.70	-.29	-.81	2.68	1.51	.73	-.16	-.97
Injuries	2.04	1.36	.38	.31	-.59	2.48	1.55	.39	-.12	-1.08	2.35	1.53	.32	.03	-1.09
The food that I eat	1.85	1.67	.58	.52	-.99	1.75	1.58	.56	.51	-.91	1.76	1.66	.56	.58	-.95
The development of my sporting career	1.95	1.55	.78	.28	-1.05	2.01	1.61	.76	.21	-1.17	2.03	1.67	.74	.30	-1.17
My training schedule	2.07	1.44	.64	.17	-.84	2.12	1.48	.66	.08	-1.02	2.17	1.53	.65	.11	-1.03
Logistics and Operations															
The technology used in my sport	.85	1.14	.55	1.46	1.64	.89	1.16	.50	1.40	1.57	.81	1.14	.48	1.65	2.52
Travelling to or from training or competitions	2.08	1.31	.44	.24	-.50	2.07	1.28	.54	.03	-.74	1.81	1.14	.48	.15	-.54
The organization of the competitions that I perform in	1.43	1.24	.45	.81	.19	1.52	1.33	.40	.64	-.44	1.36	1.28	.46	.94	.26
The training or competition venue	1.38	1.27	.65	.78	.03	1.44	1.38	.65	.68	-.47	1.36	1.26	.61	.67	-.38
The accommodation used for training or competitions	.79	1.09	.55	1.58	2.38	.80	1.13	.57	1.46	1.69	.81	1.10	.64	1.45	1.70
What gets said or written about me in the media	.66	1.10	.47	1.87	2.95	.74	1.25	.42	1.80	2.43	.68	1.09	.46	1.82	3.02
The regulations in my sport	.88	1.15	.55	1.61	2.64	.87	1.12	.49	1.28	.97	.83	1.08	.49	1.46	1.88
The funding allocations in my sport	1.22	1.56	.47	1.06	-.15	1.30	1.60	.47	.91	-.56	1.30	1.63	.50	.97	-.44
The organization that governs and controls my sport	1.02	1.25	.58	1.40	1.43	1.11	1.35	.53	1.18	.53	1.04	1.29	.56	1.30	1.02
Team and Culture															
The atmosphere surrounding my team	1.44	1.31	.84	.47	-.84	1.55	1.40	.80	.39	-1.11	1.46	1.32	.79	.54	-.62
My team mates' attitudes	1.80	1.44	.85	.32	-.83	1.94	1.52	.82	.22	-1.05	1.80	1.44	.84	.30	-.97
The responsibilities that I have on my team	2.05	1.60	.65	.26	-1.05	2.06	1.55	.60	.11	-1.18	1.90	1.50	.60	.26	-1.02
The shared beliefs of my team mates	1.24	1.27	.84	.74	-.40	1.29	1.32	.78	.71	-.65	1.24	1.28	.80	.84	-.24
Coaching															
The relationship between my coach and I	1.28	1.35	.89	.77	-.42	1.42	1.53	.84	.63	-1.00	1.26	1.38	.74	.83	-.39
My coach's personality	1.15	1.32	.80	1.03	.19	1.19	1.40	.78	1.01	.09	1.11	1.34	.77	1.11	.37
Selection															
How my team is selected	1.59	1.47	.76	.59	-.58	1.71	1.58	.80	.48	-.94	1.58	1.49	.74	.56	-.82
Selection of my team for competition	1.66	1.55	.96	.49	-.90	1.76	1.60	.88	.39	-1.12	1.65	1.53	.92	.52	-.89

4.523 Invariance Testing

A sequential model testing approach was employed via multi-sample CFA to examine whether the OSI-SP displayed invariance across different variables. These were: gender (male or female), sport type (team or individual), competitive level (low or high, where club and county were classified as low, and collegiate/university, senior national, and international were classified as high), and competitive experience (low or high based on a median split). For each of these variables, a baseline model was established and then additional models were devised that were increasingly constrained. These models were specified to examine the equality of measurement (item loadings) and structural parameters (factor variances and covariances) of the OSI-SP across the different groups (Byrne, 2006). Traditionally, invariance testing has used the ΔS-B χ^2 test statistic to indicate equality across groups; however, this test is influenced by sample size (Byrne, 2006). As a result, alongside using the ΔS-B χ^2 difference test (Sattora & Bentler, 2001), the recommendations of Cheung and Rensvold (2002) were followed. These recommendations indicate that a change in CFI of ≤.01 is considered indicative of model invariance. Although there were six significant changes in the S-B χ^2 difference test (two for when the factor loadings were constrained across groups and four when constraining the factor covariances), the change in CFI values for the frequency, intensity, and duration scales were ≤.01 in all the analyses. These findings support the equality of factor loadings, variances, and covariances on the OSI-SP across gender, sport type, competitive level, and competitive experience.

4.524 Concurrent Validity

Table 4.4 shows the correlations between the OSI-SP scales and other variables.

4.5241 Organizational Stressors and Emotions

For each of the three rating scales, the OSI-SP factors were all significantly correlated with anxiety (r = .21 to .39), dejection (r = .23 to .32), and anger (r = .21 to .33) (all ps < .01). Some of the OSI-SP factors significantly correlated with excitement (r = .06 to .13) and happiness (r = .06 to .07) (all ps < .05).

4.5242 Organizational Stressors and Athlete Satisfaction

Table 4.4. *Correlations between Organizational Stressors and Emotions, Athlete Satisfaction, Perceived Available Support, The Group Environment, and The Coach-Athlete Relationship (Study Five).*

Variable	Sample Size	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Goals and Development Frequency	1277	2.02	.97	.75														
2. Goals and Development Intensity	1277	2.15	1.05	.89	.71													
3. Goals and Development Duration	1277	2.06	1.00	.90	.89	.74												
4. Logistics and Operations Frequency	1277	.99	.76	.53	.47	.47	.80											
5. Logistics and Operations Intensity	1277	1.04	.79	.51	.49	.49	.94	.79										
6. Logistics and Operations Duration	1277	.98	.77	.50	.47	.51	.92	.94	.80									
7. Team and Culture Frequency	1277	1.60	1.16	.45	.41	.41	.46	.43	.46	.85								
8. Team and Culture Intensity	1277	1.66	1.19	.43	.43	.42	.44	.44	.45	.93	.83							
9. Team and Culture Duration	1277	1.58	1.15	.42	.41	.44	.43	.43	.48	.91	.93	.83						
10. Coaching Frequency	1277	1.35	1.25	.47	.42	.43	.40	.38	.39	.58	.55	.55	.83					
11. Coaching Intensity	1277	1.43	1.34	.44	.45	.45	.39	.39	.40	.54	.56	.54	.92	.82				
12. Coaching Duration	1277	1.35	1.29	.44	.44	.45	.37	.37	.41	.54	.54	.56	.90	.91	.81			
13. Selection Frequency	1277	1.78	1.40	.39	.34	.32	.32	.29	.30	.55	.53	.52	.48	.46	.44	.80		
14. Selection Intensity	1277	1.90	1.46	.36	.37	.34	.30	.30	.31	.52	.53	.51	.46	.47	.45	.91	.79	
15. Selection Duration	1277	1.74	1.36	.37	.36	.37	.34	.34	.36	.54	.54	.55	.46	.46	.46	.90	.91	.76
16. SEQ- Anxiety	1277	1.90	.91	.38	.39	.38	.21	.22	.21	.23	.23	.22	.29	.30	.28	.21	.23	.23
17. SEQ- Dejection	1277	1.23	.94	.29	.27	.28	.23	.23	.24	.32	.30	.30	.32	.30	.29	.29	.29	.30
18. SEQ- Anger	1277	1.52	1.05	.24	.23	.24	.23	.21	.22	.33	.31	.30	.29	.27	.27	.30	.29	.31
19. SEQ- Excitement	1277	2.81	1.05	.13	.13	.13	*.06*	*.06*	.04	.08	.08	*.07*	.05	*.07*	.04	*.06*	*.07*	.05
20. SEQ- Happiness	1277	2.65	.82	.05	*.06*	.05	.03	.03	.02	*.07*	*.06*	*.06*	-.00	.01	-.01	.02	.02	.00
21. ASQ- Satisfaction with Team Performance	671	4.37	1.57	.05	.05	.04	.02	.02	.02	-.04	-.04	-.06	-.03	-.03	.00	-.03	-.05	-.03
22. ASQ- Satisfaction with Individual Performance	671	4.27	1.39	.10	.12	*.09*	.01	.03	.01	.03	.02	.01	.00	.02	.04	-.03	-.01	-.01
23. PASS-Q- Perceived Tangible Support	671	1.96	1.10	.13	.13	.11	.13	.13	.13	*.10*	*.08*	*.08*	*.08*	*.10*	*.09*	*.10*	*.08*	*.08*
24. GEQ- Attraction to Group Task	671	3.81	2.09	*.08*	.07	.04	*.10*	*.10*	.10	.16	.16	.16	.14	.13	.11	.11	.13	*.09*
25. GEQ- Attraction to Group Social	671	4.02	2.32	-.06	-.06	*-.08*	-.00	.01	.02	-.05	-.03	-.03	-.06	-.06	-.07	-.08	-.06	-.09
26. GEQ- Group Integration Task	671	4.22	1.85	-.01	-.02	-.01	.05	.04	.06	*.09*	*.08*	*.10*	.03	.03	.04	-.01	.01	.01
27. GEQ- Group Integration Social	671	4.46	2.07	*-.09*	*-.08*	*-.08*	.02	.02	.03	*-.09*	-.07	-.08	-.06	-.07	-.05	-.08	*-.09*	*-.08*
28. CART-Q- Closeness	671	5.39	1.49	.04	.06	.06	-.04	-.03	-.03	-.05	-.03	-.05	-.05	-.02	-.02	-.04	-.02	-.01
29. CART-Q- Commitment	671	4.68	1.50	.07	*.09*	*.09*	-.01	.01	.01	-.04	-.02	-.04	-.03	.00	-.01	-.02	-.00	-.01
30. CART-Q- Complementarity	671	5.33	1.38	.02	.05	.05	*-.09*	*-.08*	-.07	-.07	-.05	-.06	-.07	-.04	-.04	-.01	.01	.01

Note. Cronbach's alpha(α) appears on the matrix diagonal. Pearson *r*'s appear below the matrix diagonal (underlined values significant at $p < .01$; italic values significant at $p < .05$). The correlation matrix has been truncated, since the purpose of the study was to investigate the correlations between the OSI-SP scales and other relevant concepts (to establish concurrent validity), rather than examining the correlations between the extra variables measured.

There was a significant relationship between the Goals and Development frequency, intensity, and duration scales and satisfaction with individual performance (r = .09 to .12, p < .05).

4.5243 Organizational Stressors and Perceived Available Support

Perceived tangible support was significantly correlated with the Goals and Development (r = .11 to .13, p < .01), Logistics and Operations (r = .13, p < .01), Team and Culture (r = .08 to .10, p < .05), Coaching (r = .08 to .10, p < .05), and Selection (r = .08 to .10, p < .05) frequency, intensity, and duration scales.

4.5244 Organizational Stressors and The Group Environment

There was a significant positive correlation between attraction to the group task and the Goals and Development frequency scale (r = .08, p < .05), the Logistics and Operations (r = .10, p < .05), Team and Culture (r = .16, p < .01), Coaching (r = .11 to .14, p < .01), and Selection (r = .09 to .13, p < .05) frequency, intensity, and duration scales. Attraction to group social significantly correlated with the Goals and Development duration scale (r = -.08, p < .05). For group integration, the task element was significantly correlated with the Team and Culture frequency, intensity, and duration scales (r = .08 to .10, p < .05). The social element of group integration was significantly correlated with the Goals and Development frequency, intensity, and duration scales (r = -.08 to -.09), the Team and Culture frequency scale (r = -.09), and the Selection intensity and duration scales (r = .08 to .09) (all ps < .05).

4.5245 Organizational Stressors and The Coach-Athlete Relationship

There were no significant correlations between the organizational stressor factors and coach-athlete relationship closeness. The Goals and Development intensity and duration scales were significantly related to coach-athlete relationship commitment (r = .09) and the Logistics and Operations frequency and intensity scales were significantly related to coach-athlete relationship complementarity (r = -.08 to -.09) (all ps < .05).

4.6 DISCUSSION

Although organizational stressors are prevalent in competitive sport (see Chapter Three), to date no measure has been developed to comprehensively assess these stressors in

the sport context. The research reported here sought to address this issue by developing and validating the OSI-SP via a series of four related studies. The outcome was a 23-item indicator that assesses the frequency, intensity, and duration of the organizational stressors encountered by sport performers, consisting of five subscales: Goals and Development, Logistics and Operations, Team and Culture, Coaching, and Selection. Analyses indicate that the OSI-SP provides an accurate and reliable measure of these stressors.

The five factors emerging from this research represent parsimonious, but inclusive, subscales of organizational stressors that are underpinned by previous qualitative research in this area (see Chapter Three). Although the indicator items were originally developed for each of the 31 subcategories in the taxonomic classification in Chapter Three, the results reported here indicate that it was not possible to extract 31 independent factors and that a five-factor model is most appropriate. Hence, although it is possible to subjectively distinguish between numerous subcategories of organizational stressors, the conceptual links and empirical relationships between them point to a more parsimonious approach to assessment. Moreover, from a practical perspective, a 31-factor indicator and its associated items would be time-consuming to complete, particularly alongside other questionnaires in future research studies.

For the first-order, five-factor, 23-item models tested in Studies Four and Five, only the frequency scale met Hu and Bentler's (1999) revised CFI cut-off value of .95. Nonetheless, in both Studies Four and Five, all three scales met the SRMR, RMSEA and original CFI guidelines (cf. Bentler, 1992). Thus, the OSI-SP demonstrates acceptable factorial validity when measuring the frequency, intensity, and duration of the organizational stressors encountered by sport performers. To establish if all three rating scales are required for future use of the OSI-SP, correlations between the frequency, intensity, and duration scales were calculated. The correlations suggest that the rating scales are distinct and, therefore, assessing different dimensions of organizational stressors. Nevertheless, even though the correlations were less than unity, the correlations between the scales suggest that they are highly related. Therefore, future researchers wishing to gain a more comprehensive picture of performer-organization transactions should use all three rating scales; however, the frequency scale alone would likely be adequate for researchers or practitioners requiring a shorter version of the indicator.

In addition to examining the five-factor model in Study Four, a one-factor structure was also tested; however, this displayed a very poor fit to the data. This finding indicates that organizational stressors are a multifactorial construct that are best represented by a number of

separate, albeit related, environmental stressors. In Studies Four and Five, a hierarchical structure was also tested which produced fit values that were only marginally lower than that of the first-order, 23-item model. Marsh (1987) remarked that the fit of a second-order model cannot be better than the fit of the equivalent first-order structure; therefore, he suggested that if the fit of the higher model approaches that of the first-order model, the hierarchical structure should be preferred because it is more parsimonious. As a result, it is suggested that the hierarchical model should be adopted by researchers interested in a general measure of organizational stressors (e.g., for measuring these environmental stressors in complex structural equation modelling). However, for those examining the relationships between specific organizational stressors, other concepts, and/or various outcomes, it is suggested that the five-factor model will likely be most applicable since it provides a more in-depth assessment. Study Five also provided support for the factorial invariance of the measurement model by finding that the factor loadings, variances, and covariances were equivalent across gender, sport type, competitive level, and competitive experience. As a result, it is now possible for researchers to assess organizational stressors across different groups of sport performers and make more meaningful comparisons between them (cf. Vandenberg & Lance, 2000).

This research found support for the concurrent validity of the OSI-SP by reporting significant correlations between organizational stressors and emotions, satisfaction with individual performance, perceived available tangible support, the group environment, and perceived commitment and complementarity in the coach-athlete relationship. Some of these relationships are in accordance with the extant literature in sport psychology, which has indicated that stressors, many of which Chapter Three classified as organizational stressors, are related to positive and negative emotional responses and feeling states (Fletcher, Hanton, & Wagstaff, 2012; Gould, Eklund, & Jackson, 1992a, 1992b; Gould, Udry, Bridges, & Beck, 1997; Nicholls, Backhouse, Polman, & McKenna, 2009; Nicholls, McKenna, Polman, & Backhouse, 2011), satisfaction (Fletcher, Hanton, & Wagstaff, 2012; Tabei, Fletcher, & Goodger, 2012), and perceived available tangible support (Kristiansen & Roberts, 2010). However, further empirical research is required to examine in greater detail the correlations reported in Study Five, in particular those between organizational stressors and the group environment, and organizational stressors and perceived commitment and complementarity in the coach-athlete relationship. From a theoretical perspective, the meta-model of stress, emotions, and performance (Fletcher et al., 2006) posits that these variables act as situational moderators of the transactional stress process that serve as buffers or exacerbates of P-E and

E-P relationships (see Section 2.142). The OSI-SP provides researchers with a measure that, used in conjunction with other measures, can further our understanding of the organizational stress process in sport and the relationships between the main components.

This research has developed the first valid and reliable measure of the organizational stressors encountered by sport performers. In contrast to previous measures in the sport context which have only assessed a small number of organizational-related stressors (see, e.g., Kristiansen, Halvari et al., 2012), the OSI-SP can be used to assess a comprehensive range of organizational stressors in competitive sport. Notwithstanding this strength, it is worth highlighting some of the limitations of the series of studies reported here. Firstly, like many other measures of stressors in the organizational psychology literature (see, for a review, Rick et al., 2001), this research relied solely on self-report data. Although an individual's own reports provide insights into his or her perceptions of the environment, the self-report of stressors can be confounded by attitudes, habitual coping responses, and social constructions (Howard, 1994; Spector, 1994). To address this limitation, future research should consider adopting a triangulation strategy, which incorporates multiple methods (e.g., self-reports, observations, physiological indices) into a study design so that the drawbacks of one method can be attenuated by the strengths of another (see Section 2.23). A second limitation of this research was the cross-sectional and correlational nature of the data collected. This approach was appropriate for developing and validating the measure and initially exploring relationships in this area; however, future research should adopt longitudinal designs to better capture the complex and on-going nature of organizational stress.

To conclude, the four related studies presented in this chapter report the development and validation of a psychometrically sound indicator that assesses the organizational stressors encountered by sport performers. This indicator - labelled the Organizational Stressor Indicator for Sport Performers (OSI-SP) - measures the frequency, intensity, and duration of the stressors, consisting of five subscales: Goals and Development, Logistics and Operations, Team and Culture, Coaching, and Selection. In the context of the overall thesis, the studies reported in this chapter have progressed the programme of research by not only developing and validating the OSI-SP, but also initially exploring the relationships between organizational stressors and other relevant concepts, and demonstrating the invariance of the measurement model so that the indicator can be used across different groups of sport performers. In accordance with this invariance result, the OSI-SP is used with further samples in the thesis to assess individual demographic differences in organizational stressors (see

Chapter Five), and observe (along with other measures) moderating influences on the organizational stress process in sport (see Chapter Six). The findings of this chapter also provide contributions for theory (see Section 7.21) and suggestions for future research in this area (see Table 7.2). Practically, the OSI-SP provides a diagnostic measure that practitioners can use to assess environmental stressors and to better understand the organizational environment in competitive sport (see Section 7.22).

5

STUDY SIX

INDIVIDUAL DEMOGRAPHIC DIFFERENCES IN ORGANIZATIONAL STRESSORS

The Organizational Stressor Indicator for Sport Performers (OSI-SP) developed and validated in Chapter Four enables the individual demographic differences in organizational stressors to be examined, which forms the purpose of Chapter Five. In the context of the overall thesis, this chapter extends Study One which, by classifying organizational stressors, provided an initial insight into the stressors that cohered and contrasted across sport performers' stress experiences. Furthermore, by examining individual differences in organizational stressors, this chapter can contribute knowledge and understanding on the personal characteristics component of the meta-model (see Section 2.142), trigger research on other moderating variables (see Chapter Six), and help to develop more bespoke and appropriate stress management interventions (see Sections 2.144 and 7.22).

5.1 INTRODUCTION

The sporting environment can create considerable stressors for sport performers that, as identified in Section 1.212, can attenuate their preparation for and performance in major competitions (Gould et al., 1999) and have a substantial effect on their health and well-being (DiBartolo & Shaffer, 2002; Meehan et al., 2004). Although these stressors may be of a personal or competitive nature (see, e.g., Kihl et al., 2008; Mellalieu, Neil, Hanton, & Fletcher, 2009), sport psychology research over the past decade has found that organizational stressors (demands associated with the organization within which an individual is operating) are particularly prevalent across sport performers' experiences (see, e.g., Fletcher et al., 2006; Fletcher, Hanton, Mellalieu, et al., 2012; Hanton et al., 2005; Woodman & Hardy, 2001a). To illustrate how predominant and pervasive these stressors can be, the research synthesis reported in Chapter Three identified 640 distinct organizational stressors that had been encountered by a total of 1809 sport performers. Chapter Three also indicates that a number of studies in this area (n = 34) have identified the stressors that sport performers encounter. Notwithstanding the importance of this research focus to date, it is clear from reviewing the

studies in this area that limited attention has been afforded to investigating how organizational stressors vary according to individual demographic differences. This is a fruitful line of future enquiry, since an understanding of how individuals' organizational stress experiences vary will further theoretical knowledge. To elaborate, as outlined in Section 2.14, the meta-model of stress, emotions, and performance (Fletcher et al., 2006) postulates that the stress process is moderated by various personal and situational characteristics. These moderating linkages mean that what is stressful for one person at one time point might not be for other individuals (Aldwin, 2007). Therefore, by examining if individual demographic differences (personal characteristics) affect the dimensions of organizational stressors that a sport performer encounters, theoretical proposals presented in the meta-model can be tested. An understanding of individual demographic differences is also important practically, since it will enable applied practitioners to develop more bespoke and appropriate interventions for sport performers (cf. Rumbold et al., 2012; Thomas, Mellalieu, & Hanton, 2009).

The omission of organizational stress research on individual demographic differences could perhaps be explained by research in this area typically recruiting relatively homogenous samples, of either male (Anshel & Wells, 2000; Cohn, 1990; Giacobbi, Foore, & Weinberg, 2004; Hanton et al., 2005; Nicholls et al., 2006; Nicholls et al., 2005; Nicholls, Jones, Polman, & Borkoles, 2009; Reeves et al., 2009; Thelwell, Weston, & Greenlees, 2005, 2007; Weston, Thelwell, Bond, & Hutchings, 2009) *or* female participants (Devonport, Biscomb, Lane, Mahoney, & Cassidy, 2005; Giacobbi, Lynn, Wetherington, Jenkins, Bodendorf, & Langley, 2004; Holt & Hogg, 2002), performers competing within the *same* sport (Australian football - Noblet & Gifford, 2002; basketball - Anshel & Wells, 2000; cricket - Thelwell et al., 2005; 2007; golf - Cohn, 1990; Giacobbi, Foore et al., 2004; Nicholls et al., 2005; netball - Devonport et al., 2005; rugby union - Nicholls et al., 2006; 2009; sailing - Weston et al., 2009; soccer - Holt & Hogg, 2002; Reeves et al., 2009; swimming - Giacobbi, Lynn et al., 2004; wrestling - Gould, et al., 1992a, 1992b), or performers competing at the *same* level (high school - Cohn, 1990; club - Anshel & Wells, 2000; Noblet & Gifford, 2002; Reeves et al., 2009; university/collegiate - Giacobbi, Lynn et al., 2004; junior national - Devonport et al., 2005; international - Gould et al., 1992a; 1992b; Hanton et al., 2005; Holt & Hogg, 2002; Nicholls et al., 2005; professional - Nicholls et al., 2006; 2009; Thelwell et al., 2005; 2007; Weston et al., 2009).

To examine the differences between sport performers' stress experiences, researchers should carefully consider the sample they select, ensuring that it represents a diversity of

sport performers. There are some studies in this area of research that have, within the same study, attempted to sample in a more representative manner by selecting both male and female participants (Bawden, Chell, & Maynard, 2006; Gould, Jackson, et al., 1993; Gould et al., 1999; Gould, et al., 1997; James & Collins, 1997; Kaiseler et al., 2009; Kristiansen & Roberts, 2010; McKay et al., 2008; Scanlan et al., 1991), performers from different sports (Dugdale et al., 2002; James & Collins, 1997; Kristiansen & Roberts, 2010), and performers who compete at different levels (Holt & Dunn, 2004; James & Collins, 1997; Kaiseler et al., 2009; McKay et al., 2008). However, although these studies have recruited a more diverse group of participants and have, importantly, identified the organizational stressors that the sample as a whole has encountered, they have not explicitly investigated individual demographic differences in these stressors.

The first studies to identify individual demographic differences in the organizational stressors encountered by sport performers (Fletcher & Hanton, 2003b; Woodman & Hardy, 2001a) sampled both males and females and, in going beyond the original purpose of their research, observed that the organizational stressor nutrition (e.g., coach's attitudes towards nutrition) varied between the two genders. Nicholls et al. (2007) also found variation in organizational stressors between sport performers of different genders, alongside differences in sports and performance levels. Specifically, they found that males reported more stressors relating to injuries, whereas females reported more communication and team mate related stressors. For sport type, Nicholls et al. (2007) found that performers competing in individual sports reported more training and coach related stressors, whereas those in team sports raised more selection related stressors. Turning to performance level, Nicholls et al. (2007) found that sport performers competing at higher performance levels encountered more coaching and training related stressors than their lower level counterparts. Mellalieu et al. (2009) also found performance level differences, with nutritional issues only being highlighted by non-elite performers, and the competition facility and equipment stressors identified solely by elite-level performers. These studies offer a promising start to examining individual demographic differences in sport performers by identifying variations in organizational stressors across sport performers. To further develop a comprehensive understanding of individual demographic differences in organizational stressors in the future, researchers should recruit a diverse sample of sport performers and explicitly examine variation across a number of organizational stressors (see Chapter Three for a review of organizational stressors).

In an attempt to advance this area of research, Fletcher, Hanton, Mellalieu, et al.

(2012) directly compared the organizational stressors that six elite and six non-elite sport performers encountered. The results demonstrate that elite performers encounter proportionately more organizational stressors than their non-elite counterparts, with issues such as travel, accommodation, funding, and the media emerging as more prevalent stressors for individuals at the higher performance levels. Fletcher, Hanton, Mellalieu, et al.'s (2012) study provides important implications for professional practice, specifically encouraging applied sport psychologists to be cognisant of sport performers' varying abilities and vary their stress management interventions accordingly. It could be argued, however, that the study has limited generalizability since it focused on the subjective perceptions of a relatively small sample. As a result, the authors suggest "that it may be more appropriate to determine the demands that are consistently reported by a group of individuals" (Fletcher, Hanton, Mellalieu et al., 2012, pp. 7-8). In addition, future research should extend Fletcher, Hanton, Mellalieu, et al.'s (2012) study design beyond performance level alone, to explore if differences in organizational stressors also exist as a function of a sport performer's gender, sport type, age, and length of time competing.

To investigate the organizational stressors that are consistently reported by a group of sport performers and examine if such stressors vary as a function of individual demographic differences, researchers require a valid and reliable measure (Fletcher & Hanton, 2003a; Fletcher et al., 2006; Hanton et al., 2005; Kristiansen, Halvari et al., 2012). The development and validation of the Organizational Stressor Indicator for Sport Performers (OSI-SP; see Chapter Four) has enabled such measurement in sport psychology. Specifically, the OSI-SP can measure how sport performers' stress experiences vary by assessing the dimensions of the organizational stressors that they encounter. Therefore, by using the OSI-SP, the purpose of Study Six is to examine if the frequency, intensity, and duration of organizational stressors that a sport performer encounters vary as a function of his or her individual demographic differences. Since research to date has not examined the effect of individual demographic differences on all of these dimensions of organizational stressors, no specific hypotheses will be formulated.

5.2 METHOD

5.21 PARTICIPANTS

A diverse sample of participants were recruited to ensure variability in gender, sport

type, performance level, age, and length of time competing. 1277 sport performers agreed to participate (646 males, 631 females), who were aged from 18 - 78 (M_{age} = 25.79, *SD* = 10.34), were from a total of 45 different sports, and had been competing at performance levels ranging from club to international for two months to 65 years (*M* = 11.58 years, *SD* = 8.64).

5.22 PROCEDURE

Following ethical approval from the author's university ethics committee, participants were contacted and invited to participate. Participants were recruited by contacting sport performers directly or via enquiries with coaches, clubs, sport organizations, universities, and event organisers. Data collection took place using online (n = 703) and paper (n = 574) versions of the OSI-SP. The instructions at the start of the indicator informed participants that honesty and openness was encouraged, and that individuals representing more than one team should complete the OSI-SP with reference to the team they had most frequently competed for over the past month. In addition, the instructions explained that any personally identifiable information would be kept strictly confidential and, apart from the researchers, no one would have access to any personal responses. These confidential assurances were deemed essential, since they have been shown to improve the response rate for sensitive data (Ransdell, 1996). Participants signed an informed consent sheet prior to completing the OSI-SP which, in total, took approximately ten minutes to complete.

5.23 MEASURE

5.231 The Organizational Stressor Indicator for Sport Performers (OSI-SP)

The 23-item OSI-SP (see Chapter Four) was distributed to participants to measure the organizational stressors they had encountered as part of their participation in competitive sport over the past month. As illustrated in Appendices Five and Six, the five subscales on the OSI-SP are: Goals and Development (six items), Logistics and Operations (nine items), Team and Culture (four items), Coaching (two items), and Selection (two items). For all items on the OSI-SP, the stem "In the past month, I have experienced pressure associated with…" is provided, to which participants respond on three rating scales with options ranging from zero to five. These scales are: frequency ("how often did this pressure placed a demand on you?") (0 = *never*, 5 = *always*), intensity ("how demanding was this pressure?") (0 = *no demand*, 5 = *very high*), and duration ("how long did this pressure place a demand on you for?") (0 = *no*

time, 5 = *a very long time*). Internal consistency has been demonstrated for the OSI-SP, with Cronbach's alpha coefficients ranging from .75 to .85 for the frequency scales, .71 to .83 for the intensity scales, and .74 to .83 for the duration scales (see Section 4.521).

5.24 DATA ANALYSIS

The participants were split into groups according to their gender, sport type, and performance level. For gender, 646 males formed Group 1 and 631 females formed Group 2. For sport type, Group 1 were team sport performers (e.g., Lacrosse, Netball, Rugby) (n = 408), Group 2 were individual sport performers (e.g., Boxing, Fencing, Triathlon) (n = 597), and Group 3 were performers from sports that could be either team or individual based (e.g., Badminton, Rowing, Tennis) (n = 272). For performance level, Group 1 were participants who competed at national or international level (n = 379), Group 2 competed at regional or university level (n = 400), and Group 3 competed at county or club level (n = 498).

Six separate multivariate analyses of covariance (MANCOVAs) were conducted in order to examine the effects of individual demographic differences on the organizational stressors that sport performers encounter. The dependent variables were the frequency Goals and Development, Logistics and Operations, Team and Culture, Coaching, and Selection factors in the first MANCOVA, the intensity of these factors in the second, and duration in the third. The individual demographic differences examined were gender, sport type, and performance level. The age of participants and the length of time they had been competing in sport were both continuous variables and could be related to the outcome variables (Field, 2009); therefore, they were included as covariates in the analyses. The MANCOVAs were conducted with both linear effects of age and length of time competing and curvilinear effects of age and length of time competing. As recommended (cf. Cohen et al., 2003), curvilinear effects were dealt with by converting the original age and length competing values to standardised z-scores, squaring them to calculate their curvilinear terms, and entering both linear and curvilinear terms in the analyses. A conservative significance value of $p < .01$ was adopted because of the large sample size in this study, and any significant MANCOVAs were followed up with an analysis of variance (ANOVA). Post hoc Tukey tests were chosen to explore any significant effects between groups.

5.3 RESULTS

5.31 PRELIMINARY ANALYSES

No variable in the OSI-SP had >5% missing data; therefore, missing data were assumed to be missing at random (cf. Tabachnick & Fidell, 2001). The expectation maximisation algorithm was used to impute missing values. The univariate skewness values of the 23 items ranged from -.05 to 2.12 and the univariate kurtosis values ranged from -1.19 to 4.20.

5.32 MAIN ANALYSES

The covariates (age and length competing) were significantly related to the frequency (age $\Lambda = .93$, $F(5, 1249.00) = 19.38$; length competing $\Lambda = .95$, $F(5, 1249.00) = 13.85$), intensity (age $\Lambda = .94$, $F(5, 1249.00) = 17.45$; length competing $\Lambda = .96$, $F(5, 1249.00) = 10.65$), and duration (age $\Lambda = .92$, $F(5, 1249.00) = 22.19$; length competing $\Lambda = .95$, $F(5, 1249.00) = 12.92$) (all *p*s < .001) of the organizational stressor factors. There was no evidence for curvilinear effects of the covariates on the frequency (age $\Lambda = .99$, $F(5, 1247.00) = 1.43$, $p = .213$; length competing $\Lambda = .99$, $F(5, 1247.00) = 1.44$, $p = .209$), intensity (age $\Lambda = 1.00$, $F(5, 1247.00) = 1.02$, $p = .405$; length competing $\Lambda = 1.00$, $F(5, 1247.00) = .78$, $p = .567$), or duration (age $\Lambda = 1.00$, $F(5, 1247.00) = .93$, $p = .462$; length competing $\Lambda = 1.00$, $F(5, 1247.00) = .99$, $p = .424$) of the organizational stress factors. After controlling for the effects of the covariates, there was a significant main effect of gender (frequency $\Lambda = .97$, $F(5, 1249.00) = 6.96$; intensity $\Lambda = .97$, $F(5, 1249.00) = 8.54$; duration $\Lambda = .97$, $F(5, 1249.00) = 7.25$) (all *p*s < .001), sport type (frequency $\Lambda = .96$, $F(10, 2498.00) = 5.13$; intensity $\Lambda = .96$, $F(10, 2498.00) = 5.34$; duration $\Lambda = .96$, $F(10, 2498.00) = 5.33$) (all *p*s < .001), and performance level (frequency $\Lambda = .91$, $F(10, 2498.00) = 12.15$; intensity $\Lambda = .91$, $F(10, 2498.00) = 11.73$; duration $\Lambda = .92$, $F(10, 2498.00) = 10.35$) (all *p*s < .001) on the organizational stressor factors. In the following sections, only significant univariate results are discussed.

5.321 Gender

5.3211 Logistics and Operations Factor

Separate univariate ANOVAs on the outcome variables revealed significant effects of gender on logistics and operations frequency ($F(1, 1253.00) = 5.60$), intensity ($F(1, 1253.00) = 6.04$), and duration ($F(1, 1253.00) = 5.29$) (all *p*s < .001). Specifically, post hoc analyses revealed that males encountered a significantly higher frequency ($M = 1.11$, $SD = .03$),

intensity (M = 1.17, SD = .03), and duration (M = 1.10, SD = .03) of logistics and operations organizational stressors than females (frequency M = .96, SD = .04; intensity M = 1.01, SD = .04; duration M = .95, SD = .04) (p <.001) (see Figure 5.1).

5.3212 Selection Factor

Separate univariate ANOVAs on the outcome variables revealed significant effects of gender on the frequency (F(1, 1253.00) = 13.61, p = .005), intensity (F(1, 1253.00) = 25.07, p < .001), and duration (F(1, 1253.00) = 10.36, p = .012) of selection organizational stressors. Specifically, post hoc analyses revealed that females encountered a significantly higher frequency (M = 1.97, SD = .07), intensity (M = 2.16, SD = .07), and duration (M = 1.90, SD = .06) of selection organizational stressors than males (frequency M = 1.73, SD = .06, p = .005; intensity M = 1.83, SD = .06, p < .001; duration M = 1.69, SD = .05, p = .012) (see Figure 5.1).

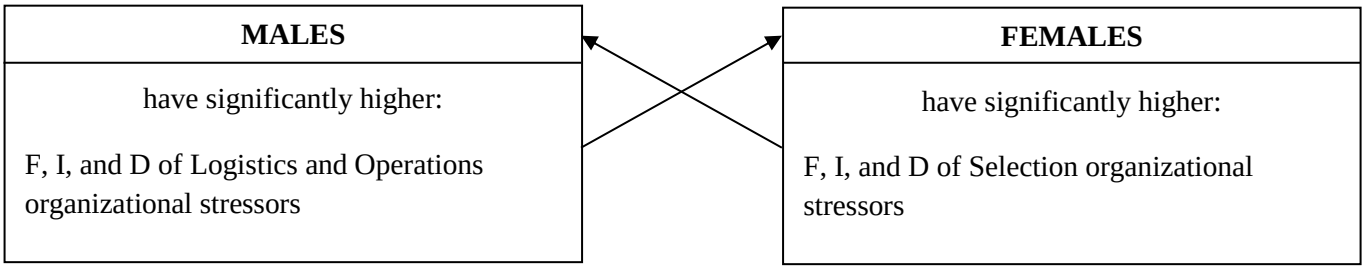

Figure 5.1. Summary Results Diagram for the Effect of Gender on Organizational Stressors (Study Six). F = frequency; I = intensity; D = duration.

5.322 Sport Type

5.3221 Logistics and Operations Factor

Separate univariate ANOVAs on the outcome variables revealed significant effects of sport type on logistics and operations frequency (F(2, 1253.00) = 4.33), intensity (F(2, 1253.00) = 3.74), and duration (F(2, 1253.00) = 3.69) (all ps < .001). Specifically, performers competing in individual sports encountered a significantly lower frequency (M = .92, SD = .03, p < .001), intensity (M = .98, SD = .03, p < .001), and duration (M = .92, SD = .03, p = .009) of logistics and operations organizational stressors than those competing in team (frequency M = 1.10, SD = .04; intensity M = 1.14, SD = .04; duration M = 1.05, SD = .04) and team and individual based sports (frequency M = 1.09, SD = .05; intensity M = 1.15, SD = .05; duration M = 1.12, SD = .05) (see Figure 5.2).

5.3222 Team and Culture Factor

Separate univariate ANOVAs on the outcome variables revealed significant effects of sport type on the frequency ($F(2, 1253.00) = 18.94$), intensity ($F(2, 1253.00) = 21.38$), and duration ($F(2, 1253.00) = 18.19$) (all *p*s < .001) of team and culture organizational stressors. Specifically, post hoc analyses revealed that sport performers competing in individual sports encountered a significantly lower frequency ($M = 1.43$, $SD = .05$), intensity ($M = 1.47$, $SD = .05$), and duration ($M = 1.40$, $SD = .05$) (all *p*s < .001) of team and culture organizational stressors than those competing in team (frequency $M = 1.84$, $SD = .06$; intensity $M = 1.89$, $SD = .06$; duration $M = 1.79$, $SD = .06$) and team and individual based sports (frequency $M = 1.70$, $SD = .08$; intensity $M = 1.82$, $SD = .08$; duration $M = 1.71$, $SD = .08$) (see Figure 5.2).

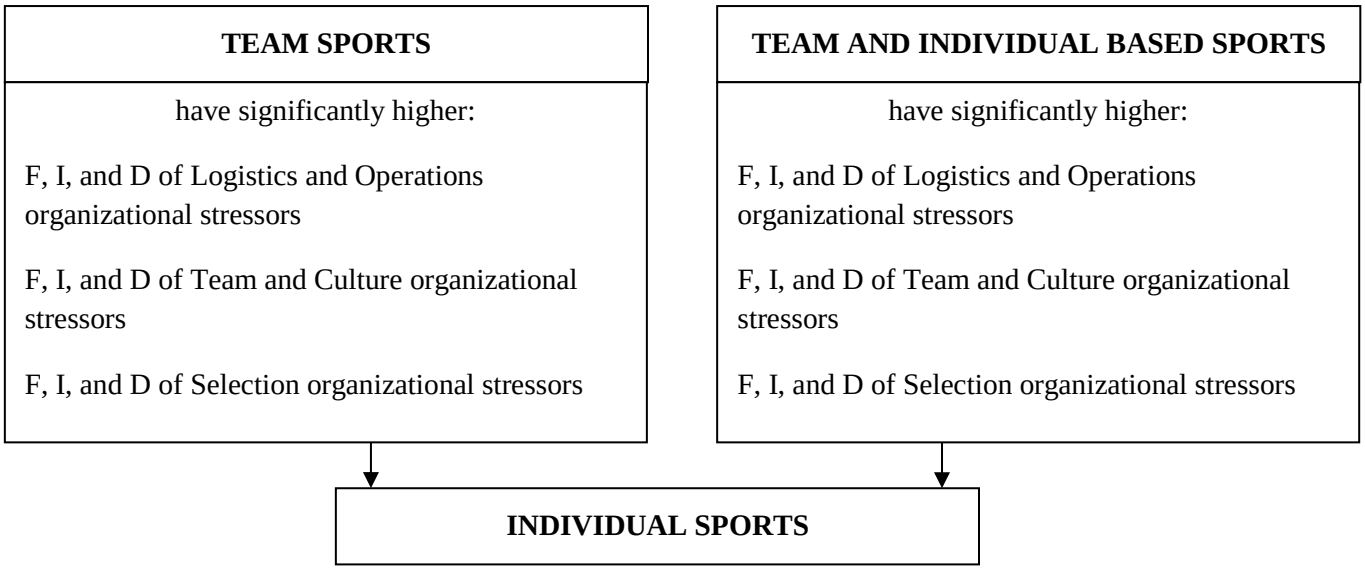

Figure 5.2. Summary Results Diagram for the Effect of Sport Type on Organizational Stressors (Study Six). F = frequency; I = intensity; D = duration.

5.3223 Selection Factor

Separate univariate ANOVAs on the outcome variables revealed significant effects of sport type on the frequency ($F(2, 1253.00) = 21.07$, $p < .001$), intensity ($F(2, 1253.00) = 24.92$, $p < .001$), and duration (sport type $F(2, 1253.00) = 21.88$, $p < .001$) of selection organizational stressors. Specifically, the results highlighted that sport performers competing in individual sports encountered a significantly lower frequency ($M = 1.59$, $SD = .06$), intensity ($M = 1.71$, $SD = .06$), and duration ($M = 1.53$, $SD = .06$) of selection organizational stressors than those competing in team (frequency $M = 1.97$, $SD = .07$; intensity $M = 2.07$, $SD = .07$; duration $M = 1.96$, $SD = .07$) and team and individual based sports (frequency $M = 1.99$, $SD = .09$; intensity $M = 2.21$, $SD = .09$; duration $M = 1.89$, $SD = .09$) (all *p*s < .001) (see

Figure 5.2).

5.323 Performance Level

5.3231 Goals and Development Factor

Separate univariate ANOVAs on the outcome variables revealed significant effects of performance level on goals and development frequency ($F(2, 1253.00) = 18.35$), intensity ($F(2, 1253.00) = 27.23$), and duration ($F(2, 1253.00) = 21.14$) (all *p*s < .001). Specifically, post hoc analyses revealed that sport performers competing at national or international level encountered a significantly higher frequency ($M = 2.33$, $SD = .06$), intensity ($M = 2.51$, $SD = .06$), and duration ($M = 2.38$, $SD = .06$) of goals and development organizational stressors than those competing at regional or university (frequency $M = 2.04$, $SD = .05$; intensity $M = 2.20$, $SD = .06$; duration $M = 2.11$, $SD = .05$) and county or club level (frequency $M = 1.83$, $SD = .05$; intensity $M = 1.90$, $SD = .05$; duration $M = 1.84$, $SD = .05$) ($p < .001$) (see Figure 5.3). Furthermore, those competing at regional or university level encountered a significantly higher frequency, intensity, and duration of goals and development organizational stressors than those competing at county or club level ($p < .001$) (see Figure 5.3).

5.3232 *Logistics and Operations Factor*

Separate univariate ANOVAs on the outcome variables revealed significant effects of performance level on logistics and operations frequency ($F(2, 1253.00) = 22.20$), intensity ($F(2, 1253.00) = 22.34$), and duration ($F(2, 1253.00) = 18.53$) (all *p*s < .001). Specifically, sport performers competing at national or international level encountered a significantly higher frequency ($M = 1.36$, $SD = .05$), intensity ($M = 1.41$, $SD = .05$), and duration ($M = 1.32$, $SD = .05$) of logistics and operations organizational stressors than those competing at regional or university (frequency $M = .89$, $SD = .04$; intensity $M = .95$, $SD = .04$; duration $M = .89$, $SD = .04$) and county or club level (frequency $M = .86$, $SD = .04$; intensity $M = .90$, $SD = .04$; duration $M = .87$, $SD = .04$) (all *p*s < .001) (see Figure 5.3).

5.3233 Team and Culture Factor

Separate univariate ANOVAs on the outcome variables revealed significant effects of performance level on the intensity of team and culture organizational stressors ($F(2, 1253.00) = 7.68$, $p < .001$). Specifically, sport performers competing at national or international level

encountered a significantly higher intensity (M = 1.88, SD = .07, p < .001) of these organizational stressors than those competing at county or club level (M = 1.56, SD = .06) (see Figure 5.3).

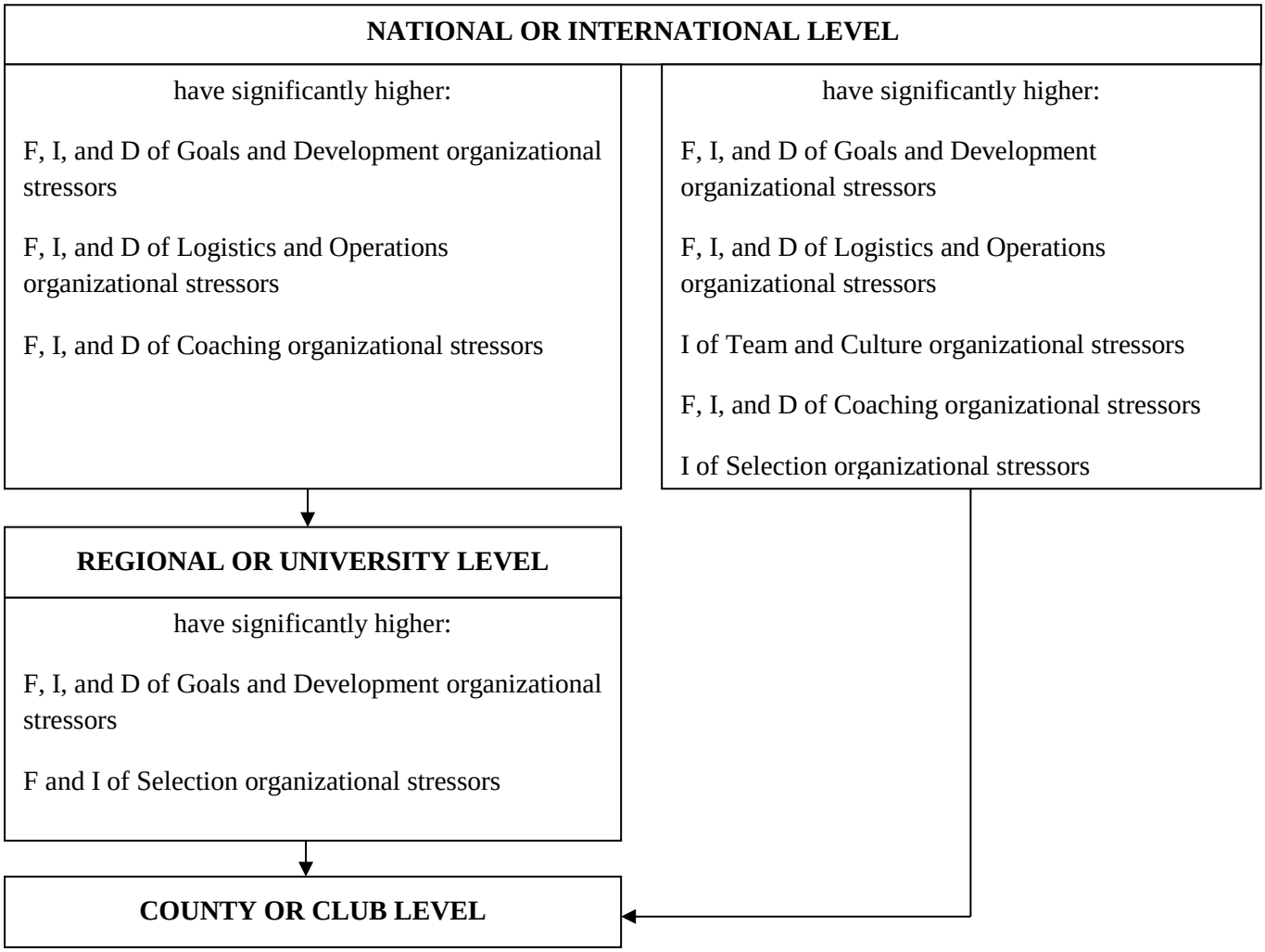

Figure 5.3. Summary Results Diagram for the Effect of Performance Level on Organizational Stressors (Study Six). F = frequency; I = intensity; D = duration.

5.3234 Coaching Factor

Separate univariate ANOVAs on the outcome variables revealed significant effects of performance level on the frequency (F(2, 1253.00) = 17.88), intensity (F(2, 1253.00) = 21.21), and duration (F(2, 1253.00) = 15.82) (all ps < .001) of coaching organizational stressors. Specifically, post hoc analyses revealed that sport performers competing at national or international level encountered a significantly higher frequency (M = 1.66, SD = .08), intensity (M = 1.78, SD = .08), and duration (M = 1.63, SD = .08) of coaching organizational stressors than those competing at regional or university (frequency M = 1.34, SD = .07, p < .001; intensity M = 1.43, SD = .07, p < .001; duration M = 1.37, SD = .07, p = .010) and

county or club level (frequency M = 1.17, SD = .06; intensity M = 1.25, SD = .07; duration M = 1.17, SD = .07) (all ps < .001) (see Figure 5.3).

5.3235 Selection Factor

Separate univariate ANOVAs on the outcome variables revealed significant effects of performance level on the frequency ($F(2, 1253.00) = 10.23$, $p < .001$) and intensity ($F(2, 1253.00) = 21.43$, $p < .001$) of selection organizational stressors. Specifically, it was found that sport performers competing at county or club level encountered a significantly lower frequency (M = 1.65, SD = .07) and intensity (M = 1.69, SD = .07) of selection organizational stressors than those competing at regional or university level (frequency M = 1.99, SD = .07; intensity M = 2.14, SD = .08), and a significantly lower intensity than those competing at national or international level (M = 2.15, SD = .09) (all ps < .001) (see Figure 5.3).

5.4 DISCUSSION

To date, sport psychology researchers have afforded limited attention to investigating how organizational stressors vary according to individual demographic differences. The research reported in this chapter sought to address this issue, by providing the first investigation into whether the frequency, intensity, and duration of organizational stressors that a sport performer encounters vary as a function of his or her gender, sport type, and performance level. The findings illustrate that individual demographic differences do affect organizational stressors (see Figures 5.1-5.3). The following three sections in this chapter (5.41-5.43) will discuss the effects associated with each of the individual demographic difference variables examined.

5.41 GENDER

In the discipline of occupational stress, Jick and Mitz (1985) have developed a model to explain the potential impact of sex/gender on the stressors that an individual encounters, and on how that stress is perceived, coped with, and manifested. The model proposes three general explanations for stress differences between males and females: genetic/biological (cf. Ivancevich & Matteson, 1980), structural (cf. Kanter, 1977), and social/psychological (cf. Folkman & Lazarus, 1980). It is worthwhile applying this model to the present study's findings, which illustrate that a sport performer's gender influences the organizational

stressors that he or she encounters. Specifically, it was found that males encounter a significantly higher frequency, intensity, and duration of logistics and operations organizational stressors than females, and females encounter a significantly higher frequency, intensity, and duration of selection organizational stressors than males. The genetic/biological explanation does not presently appear to be appropriate to explain these findings, since it suggests that the differences in males and females levels of certain hormones, aggression, and competitiveness explain any variation in their responses to stress.

The structural explanation, which proposes that certain organizational systems and societal stereotypes explain gender differences, would be a more appropriate explanation for the findings. For example, the structural explanation would suggest that girls are socialised and encouraged to be more socially oriented and express emotions and, in doing so, are more likely to notice socially related stressors and report feelings of an unpleasant nature (Tamres, Janicki, & Hegelson, 2002). Therefore, with reference to selection stressors, which are socially related and can create unpleasant emotions, it is likely that females will typically notice such stressors and have adverse reactions to them, whereas males will not. Notwithstanding the above two explanations, a social/psychological explanation seems most applicable to the present findings. This explanation suggests that males and females have different internal responses to stressful situations, such as cognitive appraisal and coping strategies. For example, research on coping has found that men typically adopt problem-focused coping, whereas females typically adopt emotion-focused coping (Nicholls & Polman, 2007). With reference to these coping strategies, Dewe et al. (2010) noted that:

> The benefits of problem-focused coping rely heavily on the person having the capacity to exert at least some influence over the stressor(s). If a person is not able to change their environment . . . . it may be more beneficial for a person to utilize some form of emotion-focused coping. (p. 111)

Therefore, the present findings can explain why males typically adopt more problem-focused coping strategies, since they encounter higher dimensions of the more controllable logistics and operations organizational stressors (e.g., travel to training and competitions), whereas females typically adopt more emotion-focused coping in an attempt to deal with the less controllable selection organizational stressors that they encounter (e.g., how the coach selects the team). Alternatively, it could be the case that because males typically adopt problem-focused coping and females emotion-focused coping, individuals are oriented to

noticing stressors that are more amendable to the style of coping that their respective gender typically adopts (e.g., males noticing logistics and operations stressors, females noticing selection stressors). The direction of this relationship between stressors and coping styles needs to be investigated further in future research.

5.42 SPORT TYPE

The findings illustrate that performers competing in team or team and individual based sports encounter a higher frequency, intensity, and duration of logistics and operations organizational stressors than those competing in individual based sports. To explain, it is likely that as the size of a group increases from one individual sport performer to a whole team, the operations and procedures for the group become more complex. This is in accordance with business management research (cf. Hornsby & Kuratko, 1990; Orger, Hogarth-Scott, & Riding, 2000) which highlights that as the size of a firm increases the personnel and practices employed become more sophisticated, which has implications for the severity of managerial problems.

The findings of the present study also illustrate, in line with previous research (cf. Nicholls et al., 2007) and as would be intuitively expected, that sport performers who spend more time with other performers (e.g., those competing in team based sports) report more team and culture related stressors. The findings also demonstrate that team based sport performers encounter a higher frequency, intensity, and duration of selection related organizational stressors than those in individual sports. This sport type difference could be explained by the amount of perceived control that a performer has over their stressors, since control can be a significant moderator of the stress process (cf. Creed & Bartrum, 2008; Jones & Fletcher, 1996). Indeed, Noblet et al. (2003) found that those who perceive less job control (e.g., team sport performers who are typically selected with reference to how they compare to others in their team) experience greater dissatisfaction than those that have more control over their job (e.g., individual sport performers who are typically selected against a more objective, controllable measure, such as a time or a target).

5.43 PERFORMANCE LEVEL

Regarding performance level, this study found that sport performers competing at higher performance levels (e.g., national or international level) typically experience organizational stressors more frequently, at a higher intensity, and for a longer duration than

those competing at lower levels (e.g., regional or university and county or club level). This difference could be explained by higher level performers being exposed to more organizational stressors and/or interpreting them differently.

Firstly, sport performers competing at higher performance levels are often required to travel both nationally and internationally; therefore, encountering demands such as travel, accommodation, and funding more than their lower level counterparts (Fletcher, Hanton, Mellalieu, et al., 2012). Such travel means that these sport performers often train and compete in different environments and spend greater amounts of time with their coach and/or team mates than those competing at lower levels, who may not even have a coach and are likely to travel less frequently and spend less time in a competitive environment with their team mates. This exposure of higher level performers to novel environments and heightened interactions with coaches and/or team mates could explain why they encounter higher dimensions of logistics and operations, coaching, and team and culture organizational stressors than those competing at lower levels. In accordance with this, Thatcher and Day (2008) reported that the novelty of a stressful situation and self and other comparisons with team mates are antecedents of stress.

An alternative explanation might be that sport performers competing at higher levels experience heightened dimensions of organizational stressors because of the way they interpret them. For example, performers competing at the higher levels typically demonstrate intense commitment and great investment to achieve their personal goals (Mallett & Hanrahan, 2004). Therefore, if a situation or event arises which can threaten such goals (e.g., selection or goals and development organizational stressors), higher level performers may experience a greater effort-reward imbalance (cf. Siegrist, 2002) and, subsequently, interpret and report higher dimensions of such stressors than lower level performers do.

5.44 APPLIED IMPLICATIONS

The findings of this study can enhance sport psychology practitioners knowledge and understanding of individual demographic differences in organizational stressors, so that they can, ultimately, prepare more appropriate and individualised stress management interventions for their clients. For example, this study illustrated that males encounter higher dimensions of more controllable logistics and operations stressors and females encounter higher dimensions of less controllable selection stressors. Therefore, practitioners will likely need to implement interventions that not only make sport performers more aware of their typical coping style,

but also develop problem-focused coping strategies that require some influence over a stressor for males (e.g., planning, effort, active coping), and emotion-focused strategies that require less influence over a stressor for females (e.g., venting of emotions, seeking social support) (cf. Crocker & Graham, 1995; Dewe et al., 2010).

Regarding the applied implications of the sport type and performance level findings, practitioners working with team-based or elite sport performers should develop primary stress management interventions (Cox, 1993; Cox et al., 2010; Fletcher & Hanton, 2003b; Fletcher et al., 2006) to either eliminate or reduce the heightened frequency and duration of organizational stressors that these two groups encounter. Alternatively, practitioners can help these sport performers to expand their collection of stress management techniques so that they can reduce the intensity of, and better cope with these stressors (for example interventions and techniques, see Rumbold et al., 2012). To further reduce the intensity of stressors, practitioners should look to enhance sport performers' perceived control over the stressors they encounter. This suggestion is in accordance with the Job Strain Model, which proposes that the risk of psychological and physical illness can be reduced if the demand of a situation does not exceed an individual's level of control (Karasek, 1979; Karasek, Baker, Marxer, Anibom, & Theorell, 1981).

5.45 STRENGTHS, LIMITATIONS, AND FUTURE RESEARCH DIRECTIONS

A strength of Study Six was the large and diverse sample of sport performers that were recruited. This sampling enabled a comprehensive first investigation into the effect of gender, sport type, and performance level on the frequency, intensity, and duration of organizational stressors. Notwithstanding this strength, it is important to discuss some of the limitations of this study and the future research directions that emerge as a result. Firstly, performance level was one of the individual demographic difference variables analysed in this study; however, some researchers have contended that this variable does not take amount of experience or the many different facets of expertise into consideration (Janelle & Hillman, 2003; Wrisberg, 1993). For example, there may be some sport performers who are elevated to a high performance level due to a sudden rise in their performance; however, they have minimal competitive experience (Mellalieu, Hanton, & O'Brien, 2004). Although the age of the performers and the length of time they had been competing were controlled for as covariates in the present study, it is suggested that future classification systems further address this limitation by considering performance level, sporting experience, and expertise.

A second limitation of this study was that data was collected at an individual level only; therefore, it was not possible to examine relationships between different team member's stress experiences. Although this design was appropriate for initially exploring individual demographic differences in organizational stressors, future researchers should consider adopting more complex designs to examine if stressors and strain experienced by one individual might be transmitted to others in their group, which has been termed *stress contagion* (cf. Jones & Fletcher, 1993; Wethington, 2000).

To conclude, this study has examined if the frequency, intensity, and duration of organizational stressors that a sport performer encounters vary as a function of his or her gender, sport type, and performance level. In the context of the overall thesis, the findings of this chapter extend Study One (see Chapter Three) by detailing the exact differences in organizational stressors (and their associated dimensions) across different groups of sport performers. Furthermore, by examining individual demographic variables (personal characteristics) that affect the dimensions of organizational stressors, this chapter furthers theoretical knowledge and understanding of organizational stress in sport (see Sections 2.142 and 7.21), and provides a trigger for research examining further moderating variables (see Chapter Six). The findings of this chapter also provide important implications for sport psychology practitioners (see Section 7.22), who are often required to modify the content of their interventions according to the characteristics of the individuals that they are working with. Specifically, these findings can help practitioners to design more bespoke and appropriate interventions so that, ultimately, the negative connotations of stress (see Section 1.212) can be reduced and an individual's well-being and sporting performances enhanced.

6

STUDY SEVEN

ORGANIZATIONAL STRESSORS AND OUTCOMES IN COMPETITIVE SPORT: THE MODERATING EFFECT OF COPING

Following on from Chapter Five, which examined individual demographic differences in organizational stressors, this Chapter examines an individual's coping style as a potential moderating variable of the relationship between organizational stressors and outcomes in the stress process (see also Section 2.142). To achieve this, the Organizational Stressor Indicator for Sport Performers (OSI-SP) developed and validated in Chapter Four is used to measure the organizational stressors that sport performers encounter. In addition, measures of other constructs that were introduced in Chapter Two are also used.

6.1 INTRODUCTION

Organizational stressors can create various problems for performers competing in sporting contexts. Specifically, these stressors - defined as "environmental demands (i.e., stimuli) associated primarily and directly with the organization within which an individual is operating" (Fletcher et al., 2006, p. 329) - have been associated with negative emotions, undesirable behaviours, dissatisfaction, overtraining, dysfunctional psychological health, burnout, and underperformance (see Section 1.212; see also Fletcher, Hanton, & Wagstaff, 2012; Gould et al., 1999; Meehan et al., 2004; Noblet et al., 2003; Raedeke & Smith, 2004). It is important to note, however, that organizational stressors do not always create negative consequences; rather, such stressors can also produce positive emotions, determination, commitment, pleasure, and satisfaction (Fletcher et al., 2006; Fletcher, Hanton, & Wagstaff, 2012). The ambiguity concerning whether organizational stressors produce negative or positive outcomes indicates that research needs to examine exactly *which* organizational stressors produce *which* outcomes. When conducting this examination, the situational aspects (e.g., dimensions) of a range of stressors should be taken into consideration, since their exclusion has been identified as a shortcoming of previous stress in sport research (Nicholls & Polman, 2007). Based on these observations, the first purpose of Study Seven is to

examine the main effects of a range of organizational stressors (and their associated dimensions) on outcomes in the competitive sport context.

The Organizational Stressor Indicator for Sport Performers (OSI-SP; see Chapter Four) can be used to measure a range and the dimensions of organizational stressors. This indicator assesses the frequency, intensity, and duration dimensions of goals and development, logistics and operations, team and culture, coaching, and selection related organizational stressors. Three outcomes that these stressors may have main effects on are life satisfaction, positive affect, and negative affect. There is substantial research confirming that, together, these outcomes are important indicators of well-being (Lundqvist, 2011). To understand the impact of organizational stressors on performance, research should also measure the outcome performance satisfaction. Unfortunately, since no research to date explicitly examines the relationships between the range of organizational stressors (as measured on the OSI-SP) and the above outcomes, it is not possible to hypothesise what the exact main effects will be. As a result, the following exploratory hypothesis is proposed:

> *Main Effects Hypothesis One.* The dimensions of organizational stressors will be related to positive affect, negative affect, life satisfaction, and performance satisfaction (see Figure 6.1).

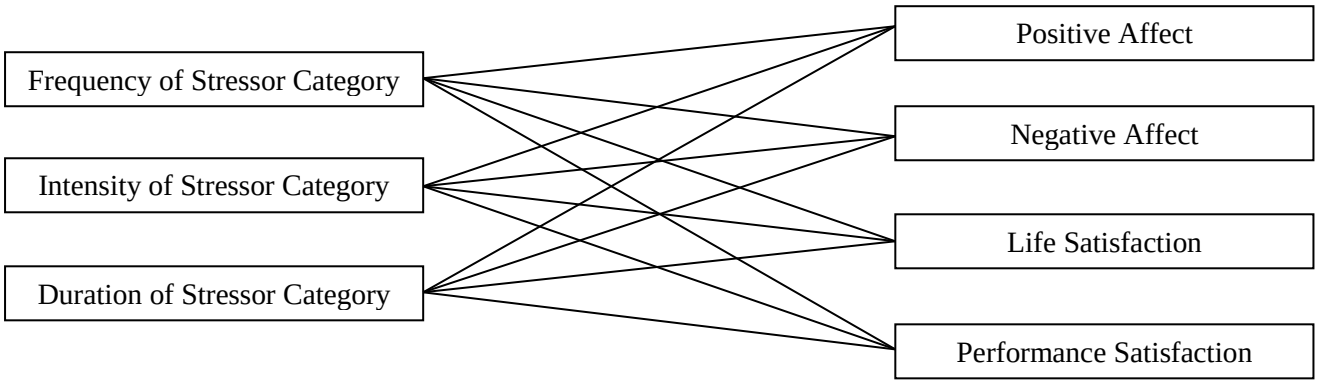

Figure 6.1. Diagram of the Main Effects Hypothesis One (Study Seven).

In follow up to this first hypothesis, it is important to consider *why* organizational stressors have the potential to be associated with both positive and negative outcomes. Indeed, as Fletcher, Hanton, and Wagstaff (2012) emphasised:

> Not all performers react in the same way to stressors they encounter; they typically display a wide range of emotional, attitudinal and behavioural responses. While experiencing some organizational stress is inevitable, it does

> not necessarily follow that athletic and psychological consequences will invariably be negative. To advance our understanding of this area, it is time to consider in far more detail the linkages between organizational stressors . . . and potential outcomes. (p. 356)

Fletcher and colleagues' (Fletcher & Fletcher, 2005; Fletcher et al., 2006; Fletcher & Scott, 2010) meta-model of stress, emotions, and performance provides one framework for explaining these linkages. Specifically, this model illustrates certain personal variables that can moderate the strength and direction of relationships in the stress process (see Section 2.142). One moderating variable that is particularly worthy of investigation in the organizational stressor in sport context is coping style, since the meta-model proposes that an individual's use of coping can help to explain whether or not positive or negative outcomes occur. To elaborate, the meta-model suggests that coping style can buffer or exacerbate the relationship between a person and their surrounding environment (P-E fit) or between the emotions an individual experiences and his or her subsequent performance (E-P fit) (Fletcher et al., 2006). Coping style refers to an individual's disposition or tendency to select certain coping strategies when confronted with acute stress (Anshel, 1996; Roth & Cohen, 1986). Although a number of styles have been proposed in coping literature (cf. Anshel, 1996; Lazarus, 1993a), three higher-order functions of coping that are commonly referred to are problem-focused coping, emotion-focused coping, and avoidance coping (Lazarus & Folkman, 1984; Nicholls & Polman, 2007). To echo the importance of examining coping style, it has been suggested in organizational behaviour research that this moderating variable may be more important to an individual's well-being than the presence of a stressor itself (Perrewé & Zellars, 1999).

Research on the main effects that a sport performer's coping style has on outcomes in the stress process is typically in accordance with theoretical predictions (Fletcher et al., 2006; Folkman, 1984; Folkman & Lazarus, 1988). Specifically, problem-focused coping has been associated with positive affect, whereas emotion-focused coping has been associated with negative affect (Crocker & Graham, 1995; Nicholls & Polman, 2007; Ntoumanis & Biddle, 1998; Ntoumanis, Biddle, & Haddock, 1999). Ntoumanis et al. (1999) also found that avoidance coping was associated with negative affect. The second purpose of this study aims to test these findings with specific reference to organizational stressors. Specifically, participants will be asked how they typically cope with organizational stressors (coping style), and the main effects of this style on positive and negative affect will be examined. Based on the aforementioned literature and theoretical propositions, the following hypothesis

is proposed:

> *Main Effects Hypothesis Two.* Problem-focused coping will have a significant main effect on positive affect, whereas emotion-focused and avoidance coping will have a significant main effect on negative affect (see Figure 6.2).

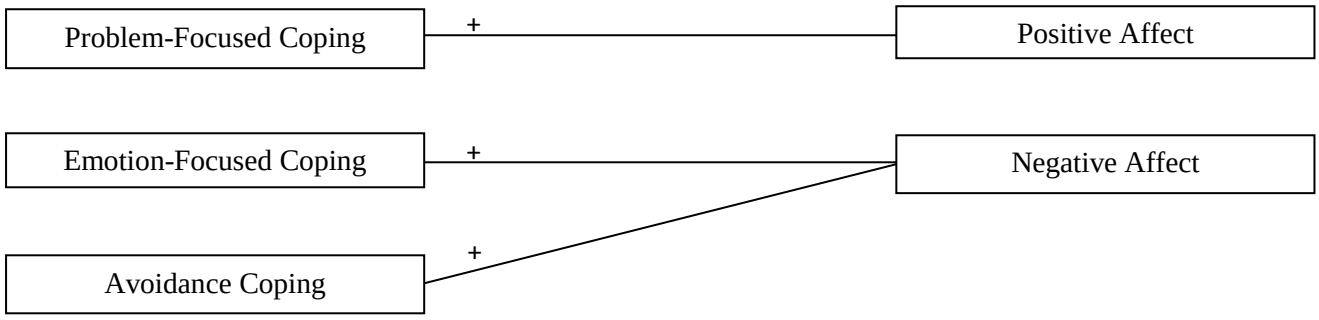

Figure 6.2. Diagram of the Main Effects Hypothesis Two (Study Seven).

Previous sport psychology research has indicated that, rather than being consistent across all situations, a sport performer's application of coping styles are a function of the type and dimension of the stressor being encountered (see, e.g., Anshel, 1996; Anshel & Anderson, 2002). As a result, it is important to not only assess the main effects of coping style on outcomes, but also to assess coping style as a moderator of the relationship between organizational stressors (and their dimensions) and outcomes. No research to date has examined the moderating impact of coping style (e.g., problem-focused, emotion-focused, avoidance) on the relationship between organizational stressors and positive affect, negative affect, life satisfaction, and performance satisfaction; therefore, this will form the third purpose of the present study.

In view of the absence of research in sport psychology examining coping style as a moderator of the organizational stress process, it is necessary to draw from stress and coping research outside of this area to form a moderation hypothesis for this study. In the emotion regulation literature (see, for a review, Gross, 1998, 1999; Gross & Thompson, 2007), coping styles have been identified as important regulators of an individual's emotions in the stress process. Specifically, research has suggested that emotion-focused coping is coextensive with emotion regulation and problem-focused and avoidance coping are both forms of antecedent-focused emotion regulation (Gross, 1998; Sheppes & Gross, 2011). Importantly, however, research in this area illustrates that it is not only strategy selection that is important in

regulating emotions within the stress process. Instead, it is suggested that appropriate timing is required to regulate emotions successfully, since emotion regulation strategies will be differentially sensitive to the intensity of an emotional response (Gross, 1998, 2001; Sheppes & Gross, 2011). Therefore, in addition to examining if coping style moderates the relationship between organizational stressors and outcomes, the stage in the stress process at which a moderating effect occurs will also be investigated for the third purpose of this study (see Figure 6.3).

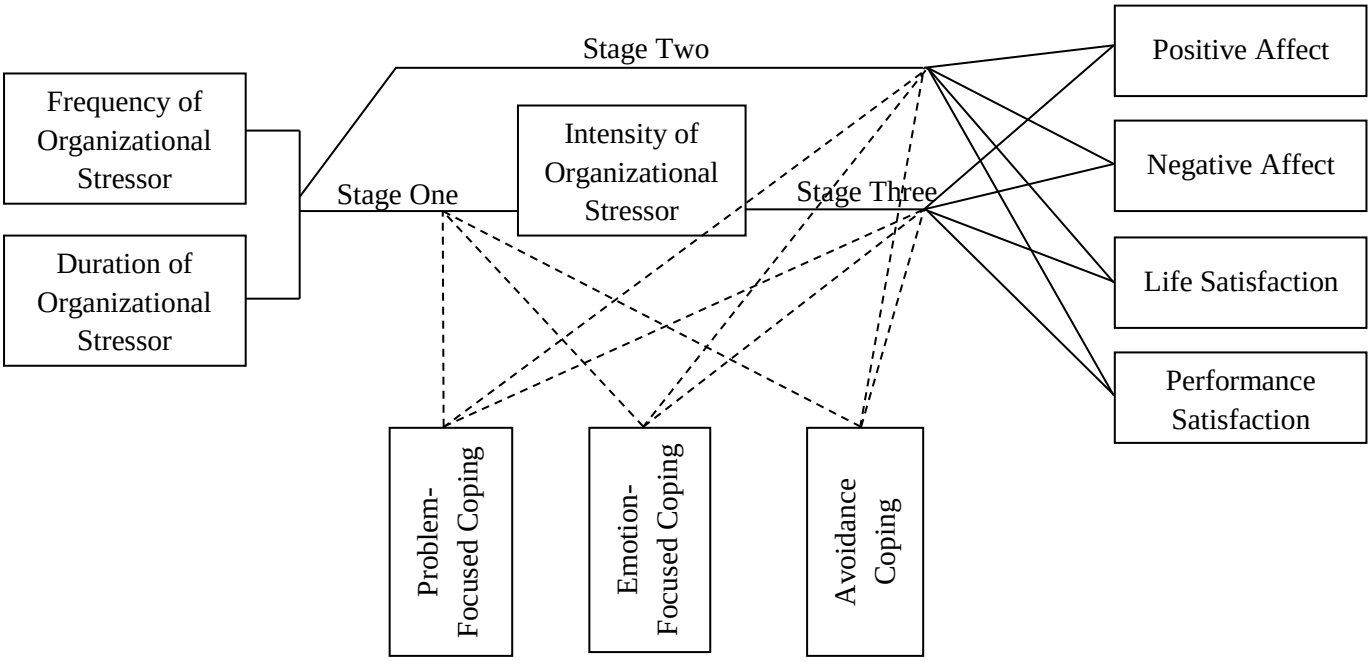

Figure 6.3. Diagram of the Moderation Hypothesis (Study Seven).

The moderator (coping style) will be examined at three stages of the stress process: Stage One will be the period between recognising the frequency and duration of an organizational stressor and interpreting its intensity (three-way interaction), Stage Two will be the period between recognising the frequency and duration of an organizational stressor and experiencing outcomes (three-way interaction), and Stage Three will be the period between interpreting the intensity of an organizational stressor and experiencing outcomes (two-way interaction) (see Figure 6.3).

Stages One and Two examine both the combination of frequency *and* duration of stressors as independent variables, since it is likely that stressors of both a high frequency and high duration represent those with the highest exposure rates that can overload an individual and, subsequently, create an imbalance with his or her desired levels of environmental

stressors and/or coping resources (cf. McKay, Cousins, Kelly, Lee, & McKaig, 2004; Newton, 1989; Shirom, 1982). In comparison to the first two stages which examine frequency and duration, Stage Three examines the intensity dimension, which refers to how demanding an individual interprets the exposure of a stressor to be (cf. Dewe, 1992).

The emotion regulation literature has documented stages similar to One and Three, which are labelled antecedent-focused emotion regulation (occurring before the emotion is generated) and response-focused emotion regulation (occurring after the emotion is generated) respectively (Gross, 1998, 2001). There has been some debate in the emotion regulation literature about the optimal timing at which to implement regulation strategies, with scholars proposing that strategies have their greatest impact in regulating emotions at different stages of the process (cf. Gross, 2001; Gross & Thompson, 2007; Sheppes & Gross, 2011). The present study is the first to explore coping style as a moderator of the relationship between the dimensions of a range of organizational stressors and outcomes; therefore, the most appropriate styles for different stages of the stress process will not be explicitly hypothesised in this study. As a result, the following hypothesis is exploratory and the moderating effects of the three coping styles will be assessed at the three stages of the stress process and for each subscale of organizational stressors as measured on the OSI-SP (see Chapter Four):

> *Moderation Hypothesis.* Coping style will moderate the relationship between the dimensions of a range of organizational stressors and outcomes. Specifically, the coping styles measured will likely have different temporal profiles in that they will moderate the effects of organizational stressors (in two and three-way interactions dependent on the stage of the stress process) on positive affect, negative affect, life satisfaction, and performance satisfaction (see Figure 6.3).

It is envisaged that the results of this moderation hypothesis will provide important information for both researchers and practitioners regarding the coping styles that buffer the impact of various organizational stressors at different stages of the stress process.

6.2 METHOD

6.21 PARTICIPANTS

Four hundred and fourteen sport performers agreed to participate in this study (197 males, 217 females). The participants were aged from 18 - 66 (M_{age} = 25.99, *SD* = 9.95), were

from a total of 34 different sports, and had been competing at performance levels ranging from club to international for two months to 53 years (*M* = 11.71 years, *SD* = 7.79).

6.22 PROCEDURE

Following ethical approval from the author's university ethics committee, participants were contacted and invited to participate. Participants were recruited by contacting sport performers directly or via enquiries with coaches, clubs, sport organizations, universities, and event organisers. Data collection took place using online (n = 276) and paper (n = 138) versions of the measures. The instructions at the start informed participants that honesty and openness was encouraged, and that individuals representing more than one team should complete the OSI-SP measure with reference to the team they had most frequently competed for over the past month. In addition, the instructions explained that any personally identifiable information would be kept strictly confidential and, apart from the researchers, no one would have access to any personal responses. Participants signed an informed consent sheet prior to completing the measures which, in total, took approximately ten minutes to complete.

6.23 MEASURES

6.231 The Organizational Stressor Indicator for Sport Performers (OSI-SP)

The 23-item OSI-SP (see Chapter Four) measured the organizational stressors that participants had encountered as part of their participation in competitive sport over the past month (see Appendix Seven). The five subscales on the OSI-SP are: Goals and Development (six items), Logistics and Operations (nine items), Team and Culture (four items), Coaching (two items), and Selection (two items). For all items on the OSI-SP, the stem "In the past month, I have experienced pressure associated with…" was provided, to which the participants responded on three rating scales with options ranging from zero to five. These scales are: frequency ("how often did this pressure placed a demand on you?") (0 = *never*, 5 = *always*), intensity ("how demanding was this pressure?") (0 = *no demand*, 5 = *very high*), and duration ("how long did this pressure place a demand on you for?") (0 = *no time*, 5 = *a very long time*). The validity and internal consistency has been demonstrated for the OSI-SP (α >.71) in Chapter Four. In the present study, the internal consistencies were acceptable (α = .72 to .85 for the frequency scales, .71 to .86 for the intensity scales, and .71 to .84 for the duration scales).

6.232 The Modified COPE (MCOPE)

Coping was assessed at the strategy level by using the MCOPE (Crocker & Graham, 1995) (see Appendix Seven). Twelve coping strategies were presented and participants were asked to indicate, on a five-point rating scale (1 = *not at all*, 5 = *very much*), how much they *typically* used each strategy to cope with the pressures that they experienced as part of their participation in competitive sport. Dispositional instructions (i.e., asking about *typical* selection of coping strategies) meant that an individual's coping style could be assessed (Aldwin, 2007). The strategies measured were classified into the higher-order functions of coping, with five categorised as problem-focused coping (active coping, seeking social support for instrumental reasons, planning, suppression of competing activities, increasing effort), five as emotion-focused coping (seeking social support for emotional reasons, humour, venting of emotion, self-blame, wishful thinking), and two as avoidance coping (denial, behavioural disengagement). Cronbach's alpha in this study was .72 for the problem-focused coping scale, .68 for emotion-focused coping, and .51 for avoidance coping. Although two of these coping scales did not reach acceptable levels of internal consistency, all of the scales were included in statistical analyses. This decision was made because one category of coping might be adequate to relieve stress, meaning that additional categories are not always required; therefore, estimates of internal consistency have limited applicability when assessing measures of coping (Billings & Moos, 1981).

6.233 The Positive and Negative Affect Scales (PANAS)

The 20 item PANAS (Watson, Clark, & Tellegen, 1988) were used to measure two brief dimensions of mood: positive affect (ten items) and negative affect (ten items) (see Appendix Seven). For each item participants were asked to indicate, on a five-point rating scale (1 = *very slightly or not at all*, 5 = *extremely*), the extent to which they had felt that way during their participation in competitive sport over the past month. Watson et al. (1988) found that the PANAS were internally consistent across a range of different time instructions and had excellent factorial, convergent, and discriminant validity. The PANAS were also internally consistent in the present study (α = .90 for the positive affect subscale and .84 for the negative affect subscale).

6.234 The Satisfaction with Life Scale (SWLS)

The SWLS (Diener, Emmons, Larson, & Griffin, 1985) provided participants with five statements, to which they were asked to indicate their agreement on a seven-point rating scale (1 = *strongly disagree*, 7 = *strongly agree*) (see Appendix Seven). Diener et al. (1985) reported that the SWLS demonstrated favourable psychometric properties, including high internal consistency and temporal reliability. The SWLS was also internally consistent in the present study (α = .87).

6.235 Performance Satisfaction

Participants subjectively rated satisfaction with their sporting performances over the past month on an eleven-point rating scale (0 = *totally dissatisfied*, 10 = *totally satisfied*) (see Appendix Seven). A subjective measure of performance was adopted over an objective assessment, since the former enables comparisons among performers competing in diverse sports, a more sensitive indication of performance, and is less likely to be influenced by environmental factors such as an opponent's skill level (Males & Kerr, 1996).

6.236 Personality: The NEO Five-Factor Inventory (NEO-FFI)

Twenty items were extracted from the NEO-FFI (Costa & McCrae, 1989) to measure neuroticism (ten items) and extraversion (ten items) elements of personality (see Appendix Seven). As major personality indicators of well-being (cf. Costa & McCrae, 1980), neuroticism and extraversion were assessed as control variables. Participants were asked to indicate their agreement with each item on a five-point rating scale (1 = *strongly disagree*, 5 = *strongly agree*). Five items for each subscale were negative statements and were reverse scored before data analysis. Acceptable psychometric properties have been demonstrated for the NEO-FFI in previous research (Costa & McCrae, 1992; Robins, Fraley, Roberts, & Trzesniewski, 2001) and both the neuroticism and extraversion subscales were also internally consistent in the present study (neuroticism α = .85, extraversion α = .87).

6.24 DATA ANALYSIS

Multiple regression was used to examine main effects of Hypotheses One and Two. Moderated hierarchical regression (MHR) analyses (Jaccard, Turrisi, & Wan, 1990) were used to examine if coping style moderated the relationship between organizational stressors and outcomes (Moderation Hypothesis). Following suggestions in the literature (cf. Aiken & West, 1991; Jaccard et al., 1990), the variables were standardised so that each individual's

score was transformed into a deviation from the group mean before any product terms were computed. The moderation hypothesis was tested for each of the five subscales of organizational stressors, the four outcomes, and the three coping styles at the three stages of the stress process. For the regressions conducted at each stage of the stress process, Table 6.1 provides details of the dependent variables and order of entry for the remaining variables. In view of the amount of tests being conducted, the Bonferroni correction was used for all regressions to control for Type I error by dividing the α-level (.05) by the number of tests (five subscales of stressors), which created an α-level of .01 (Field, 2009). For each step of the moderated hierarchical regressions, the significance of increments in explained variance in the subsequent outcomes over and above the variance accounted for by those variables already entered into the equation (ΔR^2), as well as the sign of regression coefficients (*B*) was assessed. A moderating effect was supported when the interaction had a significant coefficient and added significantly to the explained variance of the dependent variables. Interaction effects were explored further by plotting predicted values of the outcome variable at low (mean - 1SD) and high (mean + 1SD) values of the predictor and moderator variables (Aiken & West, 1991). The software developed by Preacher, Curran, and Bauer (2006) was used for the analysis of simple slopes.

Table 6.1. *The Dependent Variables and Order of Entry of the Remaining Variables for the Regressions Conducted at Each Stage of the Stress Process (Study Seven).*

Order of Entry	Stage 1 of the Stress Process	Stage 2 of the Stress Process	Stage 3 of the Stress Process
Dependent Variable*	Intensity of stressor category	Positive affect, negative affect, life satisfaction, performance satisfaction	Positive affect, negative affect, life satisfaction, performance satisfaction
Step 1: Control Variable	Personality (neuroticism, extraversion)	Personality (neuroticism, extraversion)	Personality (neuroticism, extraversion)
Step 2: Dimension of Stressor Category*	Frequency and duration	Frequency and duration	Intensity
Step 3: Coping Style*	Problem-focused, emotion-focused, avoidance	Problem-focused, emotion-focused, avoidance	Problem-focused, emotion-focused, avoidance
Step 4: Two-way Interaction	Stressor frequency x coping style, stressor duration x coping style	Stressor frequency x coping style, stressor duration x coping style	Stressor intensity x coping style
Step 5: Two-way Interaction	Stressor frequency x stressor duration	Stressor frequency x stressor duration	N/A
Step 6: Three-way Interaction	Stressor frequency x stressor duration x coping style	Stressor frequency x stressor duration x coping style	N/A

Note. * = Each variable/stressor category entered into a separate regression.

6.3 RESULTS

6.31 PRELIMINARY ANALYSES

The univariate skewness values of the items ranged from -1.15 to 2.29 and the univariate kurtosis values ranged from -1.13 to 3.07. No variable had >5% missing data in this study, and across all variables the total amount of missing data was <1%; therefore, any data not present were assumed to be missing at random (cf. Tabachnick & Fidell, 2001). The expectation maximisation algorithm was used to impute missing values. No cases were deemed to exert undue influence over the parameters of the model, since all demonstrated Cook's distance values of <1. Furthermore, the assumptions for regression analyses were tested and satisfied (Field, 2009). Specifically, the predictors all had non-zero variance, did not demonstrate multicollinearity (variance inflation values <10, tolerance values >.01), and the assumption of independent errors was satisfied since values for the Durban-Watson statistic were within the accepted range of >1 and <3. In addition, the residuals were normally, randomly, and evenly distributed at each level of the predictor; therefore, satisfying the assumptions of homoscedasticity, normally distributed errors, and linearity. Table 6.2 illustrates the means, standard deviations, alpha values, and correlations of the variables in this study.

6.32 MAIN ANALYSES

6.321 Main Effects Hypothesis One

This hypothesis proposed that the dimensions of organizational stressors would be related to positive affect, negative affect, life satisfaction, and performance satisfaction (see Figure 6.1). Although each of the organizational stressor subscales were entered into a separate moderated regression, several similar main effects were evident across organizational stressor subscales by examining the results at step two in the moderated regressions (see Table 6.1). In contrast to the proposed hypothesis, organizational stressors displayed no significant main effects on positive affect, life satisfaction, or performance satisfaction (see Figure 6.4).

6.3211 Organizational Stressors and Negative Affect

Table 6.2. *Means, Standard Deviations, Alphas, and Correlations of the Variables in this Study (Study Seven).*

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. GD F	2.00	.97	.72																							
2. GD I	2.19	1.03	.84	.71																						
3. GD D	2.10	1.02	.81	.85	.71																					
4. LO F	1.10	.85	.50	.46	.44	.77																				
5. LO I	1.14	.83	.48	.54	.49	.81	.79																			
6. LO D	1.07	.83	.52	.53	.54	.83	.83	.81																		
7. TC F	2.10	1.09	.42	.41	.42	.31	.31	.30	.79																	
8. TC I	2.21	1.14	.40	.44	.45	.29	.34	.34	.83	.79																
9. TC D	2.01	1.09	.43	.44	.47	.30	.30	.35	.82	.87	.78															
10. C F	1.64	1.28	.36	.36	.33	.32	.30	.31	.42	.45	.45	.80														
11. C I	1.78	1.38	.37	.37	.34	.35	.34	.36	.44	.47	.47	.87	.80													
12. C D	1.69	1.33	.38	.38	.38	.31	.31	.35	.43	.45	.48	.87	.86	.81												
13. S F	1.86	1.42	.35	.35	.31	.31	.32	.34	.54	.51	.56	.48	.47	.46	.85											
14. S I	2.07	1.51	.37	.41	.36	.29	.34	.35	.50	.53	.56	.45	.46	.46	.88	.86										
15. S D	1.89	1.43	.38	.40	.39	.30	.34	.38	.52	.54	.59	.46	.45	.47	.90	.90	.84									
16. PFC	3.07	.58	.36	.36	.31	.23	.24	.23	.25	.26	.27	.22	.18	.23	.19	.20	.22	.72								
17. EFC	2.77	.64	.32	.33	.30	.19	.21	.20	.25	.28	.28	.20	.24	.23	.21	.18	.23	.45	.68							
18. AC	2.04	.65	.18	.13	.13	.24	.24	.22	.20	.18	.22	.19	.25	.21	.22	.19	.19	.04	.33	.51						
19. PS	6.08	2.02	-.14	*-.10*	-.13	*-.10*	-.05	-.09	*-.11*	*-.10*	*-.11*	-.08	*-.10*	*-.10*	-.04	.01	-.03	.02	-.13	*-.11*	N/A					
20. PA	3.75	.80	.06	.08	.05	-.01	.03	-.03	.01	-.02	-.06	-.00	-.02	-.04	.01	.00	.01	.27	.02	-.24	.45	.90				
21. NA	2.12	.77	.38	.41	.39	.20	.20	.21	.35	.38	.35	.22	.26	.25	.24	.24	.27	.30	.43	.14	-.25	.05	.84			
22. LS	4.80	1.19	-.17	-.17	-.17	-.16	-.15	-.18	*-.11*	*-.10*	*-.11*	-.07	*-.10*	-.08	-.05	-.08	-.09	.07	-.07	-.14	.24	.25	-.17	.87		
23. N	2.53	.74	.20	.22	.22	.20	.17	.20	.13	.14	.17	.09	.15	.14	*.10*	.06	*.12*	.07	.25	.16	-.33	-.22	.39	-.39	.85	
24. E	3.47	.68	.03	.04	-.00	-.06	*-.10*	-.09	.04	.02	-.02	.02	.02	-.02	.05	.02	-.01	.09	.07	-.14	*.10*	.19	*-.11*	.25	-.23	.87

Note. Cronbach's alpha (α) appears on the matrix diagonal. Pearson *r*'s appear below the matrix diagonal (underlined values significant at $p < .01$; italic values significant at $p < .05$). GD = Goals and Development, LO = Logistics and Operations, TC = Team and Culture, C = Coaching, S = Selection; F = Frequency, I = Intensity, D = Duration; PFC = Problem-Focused coping, EFC = Emotion-Focused coping, AC = Avoidance Coping; PS = Performance Satisfaction, PA = Positive Affect, NA = Negative Affect, LS = Life Satisfaction; N = Neuroticism, E = Extraversion.

The frequency of team and culture organizational stressors ($\Delta R^2 = .097$, $p < .001$, $B_1 = .234$, $SE = .076$, $p = < .01$) had significant main effects on negative affect (see Figure 6.4). Furthermore, the intensity of goals and development ($\Delta R^2 = .112$, $p < .001$, $B_1 = .344$, $SE = .044$, $p = <.001$), logistics and operations ($\Delta R^2 = .017$, $p < .01$, $B_1 = .133$, $SE = .046$, $p = <.01$), team and culture ($\Delta R^2 = .106$, $p < .001$, $B_1 = .329$, $SE = .043$, $p = <.001$), coaching ($\Delta R^2 = .043$, $p < .001$, $B_1 = .211$, $SE = .045$, $p = <.001$), and selection ($\Delta R^2 = .047$, $p < .001$, $B_1 = .217$, $SE = .044$, $p = <.001$) organizational stressors all had significant main effects on negative affect (see Figure 6.4).

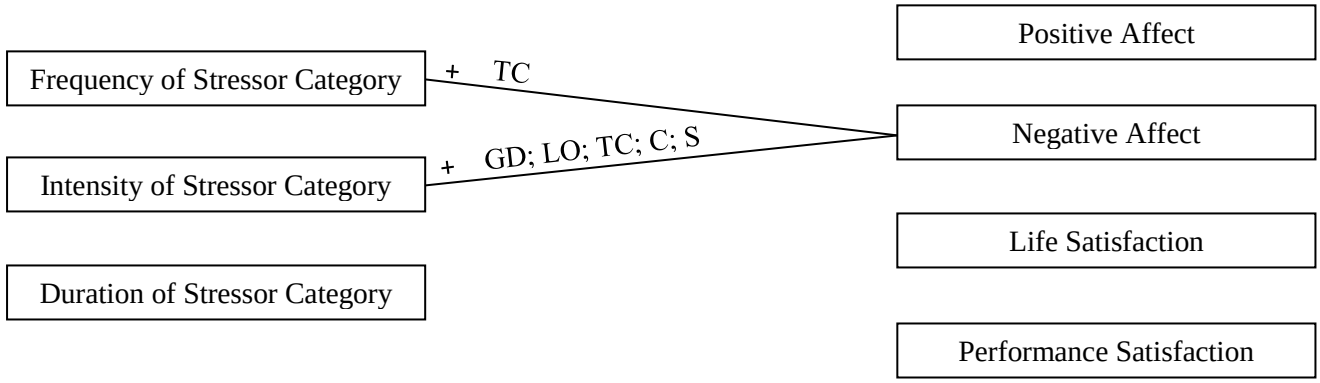

Figure 6.4. Main Effects Hypothesis One Results (Study Seven). GD = Goals and Development stressors, LO = Logistics and Operations stressors, TC = Team and Culture stressors, C = Coaching stressors, S = Selection stressors.

6.322 Main Effects Hypothesis Two

The second main effects hypothesis proposed that problem-focused coping would have a significant main effect on positive affect, whereas emotion-focused and avoidance coping would have a significant main effect on negative affect (see Figure 6.2). The results revealed that problem-focused coping did have a significant main effect on positive affect ($\Delta R^2 = .076$, $p < .001$, $B_1 = .279$, $SE = .046$, $p = <.001$) (see Figure 6.5); therefore, providing support for the first part of this hypothesis. Interestingly, problem-focused coping also had a significant main effect on negative affect ($\Delta R^2 = .075$, $p < .001$, $B_1 = .275$, $SE = .044$, $p = <.001$) (see Figure 6.5). Emotion-focused coping had a significant main effect on negative affect ($\Delta R^2 = .119$, $p < .001$, $B_1 = .360$, $SE = .044$, $p = <.001$), therefore providing partial support for the second part of this hypothesis (see Figure 6.5). Although avoidance coping did not have a significant main effect on negative affect as was originally hypothesised, it did have a significant main inverse effect on positive affect ($\Delta R^2 = .036$, $p < .001$, $B_1 = -.192$, $SE = .048$, $p = <.001$) (see Figure 6.5).

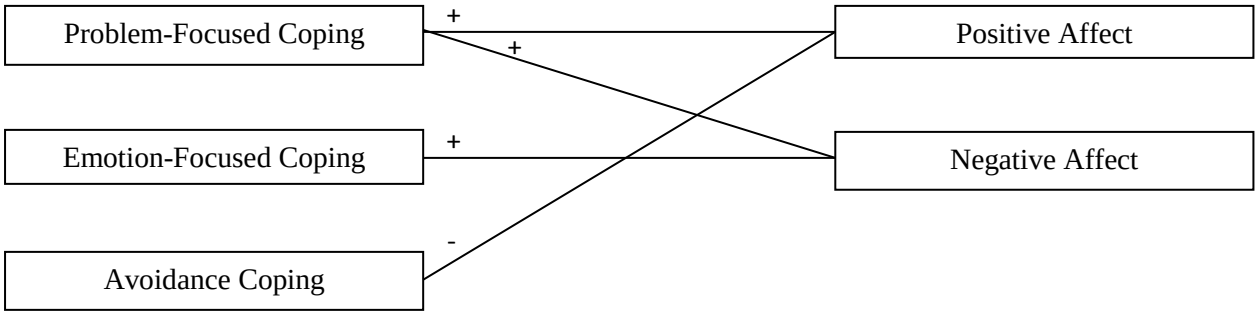

Figure 6.5. Main Effects Hypothesis Two Results (Study Seven).

6.323 Moderation Hypothesis

The moderation hypothesis in this study stated that coping style would moderate the relationship between organizational stressors and outcomes. Specifically, it was hypothesised that coping styles would likely have different temporal profiles in that they would moderate the effects of organizational stressors on positive affect, negative affect, life satisfaction, and performance satisfaction at different stages of the stress process (see Figure 6.3). Despite the typically low power of moderated regression (cf. Aguinis, Beaty, Boik, & Pierce, 2005; Finney, Mitchell, Cronkite, & Moos, 1984), four significant interactions were found in this study (see Figure 6.6).

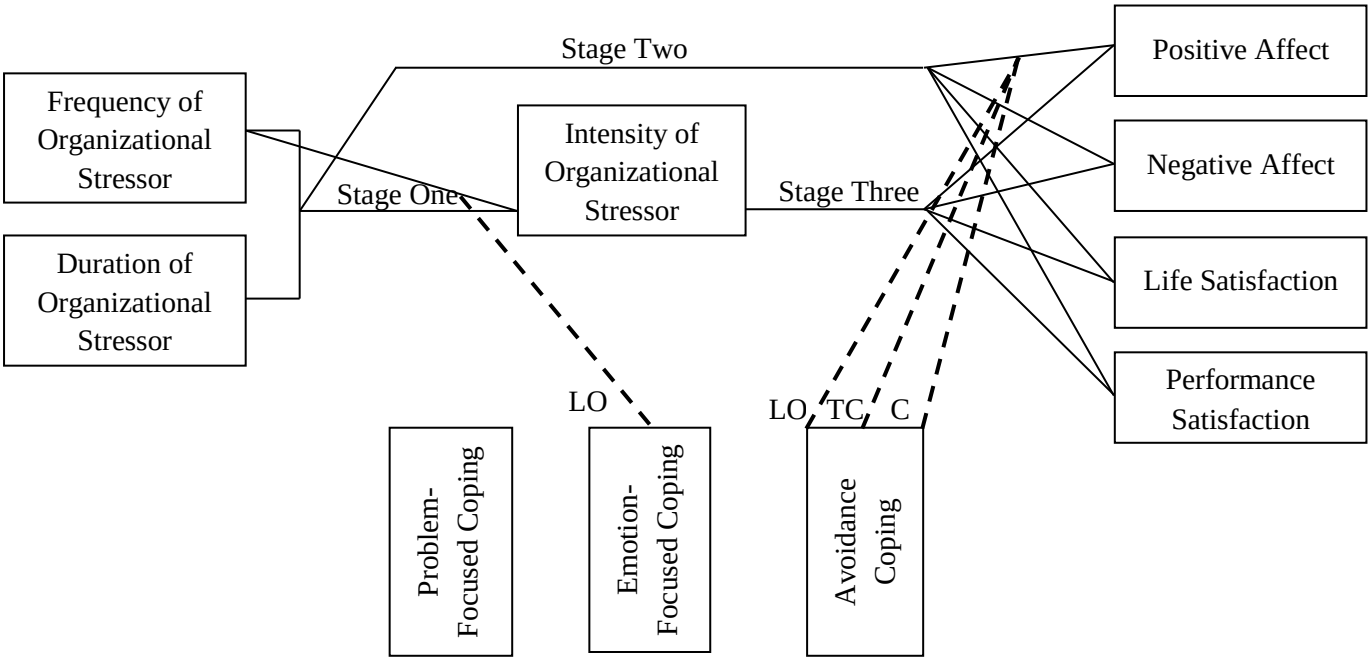

Figure 6.6. Moderation Hypothesis Results: Significant Interactions (Study Seven). Broken lines indicate significant buffering interactions. LO = Logistics and Operations stressors, TC = Team and Culture stressors, C = Coaching stressors.

6.3231 Stage One

The results of the moderated regressions conducted at Stage One of the stress process revealed one significant interaction. Specifically, there was a significant two-way interaction of the frequency of logistics and operations stressors and emotion-focused coping on the intensity of these stressors (ΔR^2 = .005, p < .01, B_5 = -.141, SE = .035, p < .01) (see Figure 6.6). The slope for low emotion-focused coping, t(405) = 5.35, p < .05, and the slope for high emotion-focused coping, t(405) = 10.49, p < .05, were both positive and significant (see Figure 6.7).

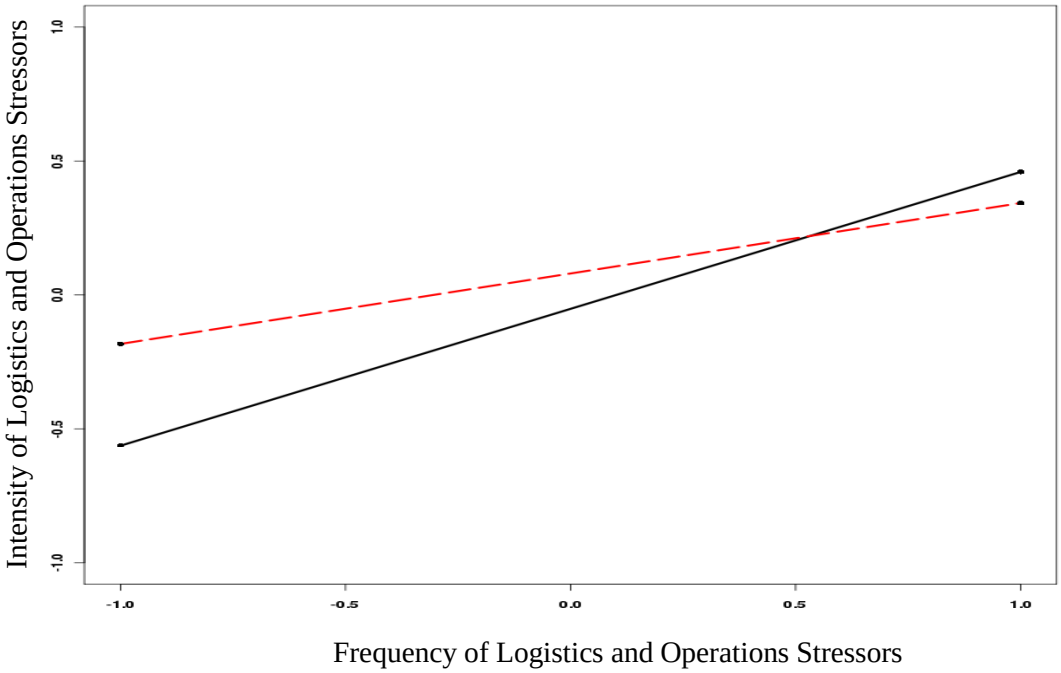

Figure 6.7. The Interaction of Frequency of Logistics and Operations Organizational Stressors and Emotion-Focused Coping on Intensity of Logistics and Operations Organizational Stressors (Study Seven). ——: Emotion-focused coping - 1.00; – – : Emotion-focused coping + 1.00.

Although not originally hypothesised, it is also worth noting other significant main effects that emerged at Stage One. Specifically, the frequency (B_1) and duration (B_2) of goals and development (ΔR^2 = .731, p < .001, B_1 = .438, SE = .039, p = <.001, B_2 = .485, SE = .039, p = <.001), logistics and operations (ΔR^2 = .707, p < .001, B_1 = .367, SE = .045, p = <.001, B_2 = .532, SE = .045, p = <.001), team and culture (ΔR^2 = .769, p < .001, B_1 = .352, SE = .040, p = <.001, B_2 = .577, SE = .040, p = <.001), coaching (ΔR^2 = .777, p < .001, B_1 = .506, SE = .061, p = <.001, B_2 = .413, SE = .061, p = <.001), and selection (ΔR^2 = .834, p <

.001, B_1 = .374, *SE* = .068, *p* = <.001, B_2 = .569, *SE* = .068, *p* = <.001) organizational stressors had a significant main effect on the intensity of these stressors[10]. Furthermore, avoidance coping displayed a significant main effect on the intensity of coaching stressors (ΔR^2 = .005, *p* < .01, B_1 = .072, *SE* = .023, *p* = <.01).

6.3232 Stage Two

Three significant interactions were found at Stage Two that buffered the impact of the frequency/duration of organizational stressors on positive affect (see Figure 6.6)[11]. Firstly, there was a significant three-way interaction of frequency and duration of logistics and operations stressors and avoidance coping on positive affect (ΔR^2 = .015, *p* < .01, B_7 = .079, *SE* = .025, *p* < .01) (see Figure 6.6). For low duration logistics and operations stressors and low avoidance coping (W_1Z_1), the slope for frequency was positive and significant, t(405) = 2.05, *p* <.05, whereas for low duration logistics and operations stressors and high avoidance coping (W_1Z_2), the slope was positive but non-significant, t(405) = 0.01, *p* =.99 (see Figure 6.8). For high duration logistics and operations stressors and low avoidance coping (W_2Z_1), the slope for frequency was positive and non-significant, t(405) = 0.03, *p* =.98, whereas for high duration logistics and operations stressors and high avoidance coping (W_2Z_2), the slope was positive and significant, t(405) = 0.68, *p* <.05 (see Figure 6.9).

Secondly, there was a significant three-way interaction of frequency and duration of team and culture stressors and avoidance coping on positive affect (ΔR^2 = .017, *p* < .01, B_7 = .087, *SE* = .037, *p* < .05) (see Figure 6.6). For low duration team and culture stressors and low avoidance coping (W_1Z_1), the slope for frequency was positive and significant, t(405) = 2.42 *p* <.05, whereas for low duration team and culture stressors and high avoidance coping (W_1Z_2), the slope was positive but non-significant, t(405) = 0.99, *p* =.32 (see Figure 6.10). For high duration team and culture stressors and low avoidance coping (W_2Z_1), the slope for frequency was negative and non-significant, t(405) = -0.20, *p* =.84, whereas for high duration

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[10] Tests at Stage One also revealed a number of significant two-way interactions between the frequency and duration of organizational stressors (when the dependent variable was the intensity of these demands). However, since there are a number of these interactions and they were not part of the original interaction hypotheses, they are not detailed.

[11] The significant three-way interactions found at Stage Two of the stress process were re-ran to also control for curvilinear terms (cf. Lubinski & Humphreys, 1990). These terms were not significant and it was clear that the Frequency^2 or Duration^2 terms were not spurious causes of the three-way interaction; therefore, these results are not detailed here.

team and culture stressors and high avoidance coping (W_2Z_2), the slope was positive and significant, t(405) = 2.12, p <.05 (see Figure 6.11).

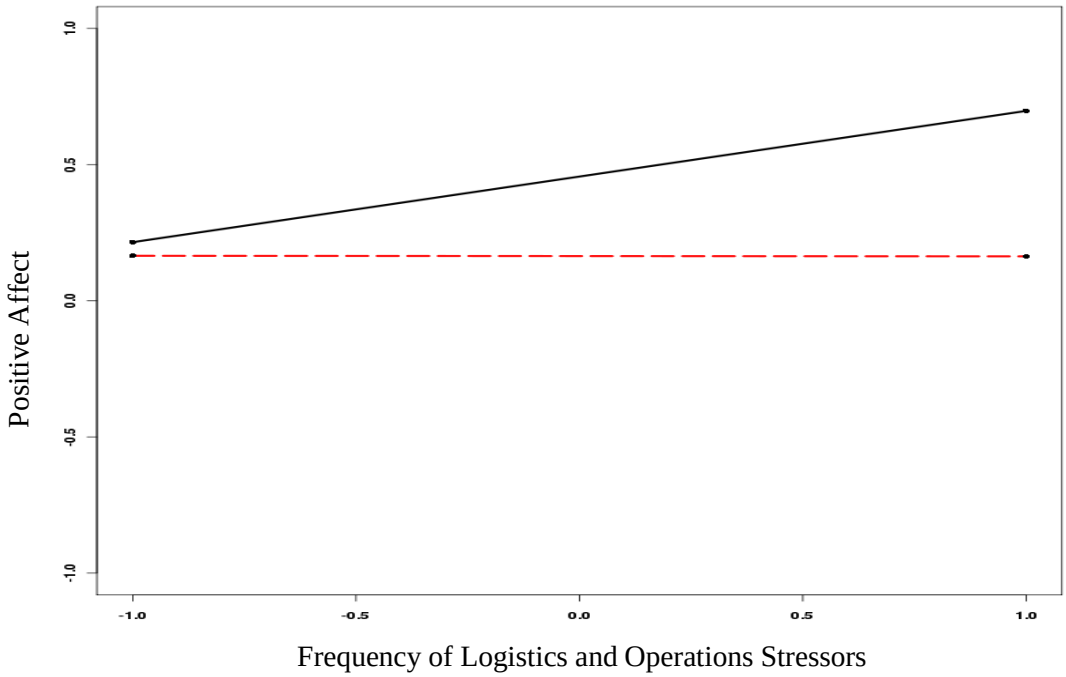

Figure 6.8. The Interaction of Frequency and Lowest Duration of Logistics and Operations Organizational Stressors and Avoidance Coping on Positive Affect (Study Seven). ___ : Avoidance coping - 1.00; _ _ : Avoidance coping + 1. 00

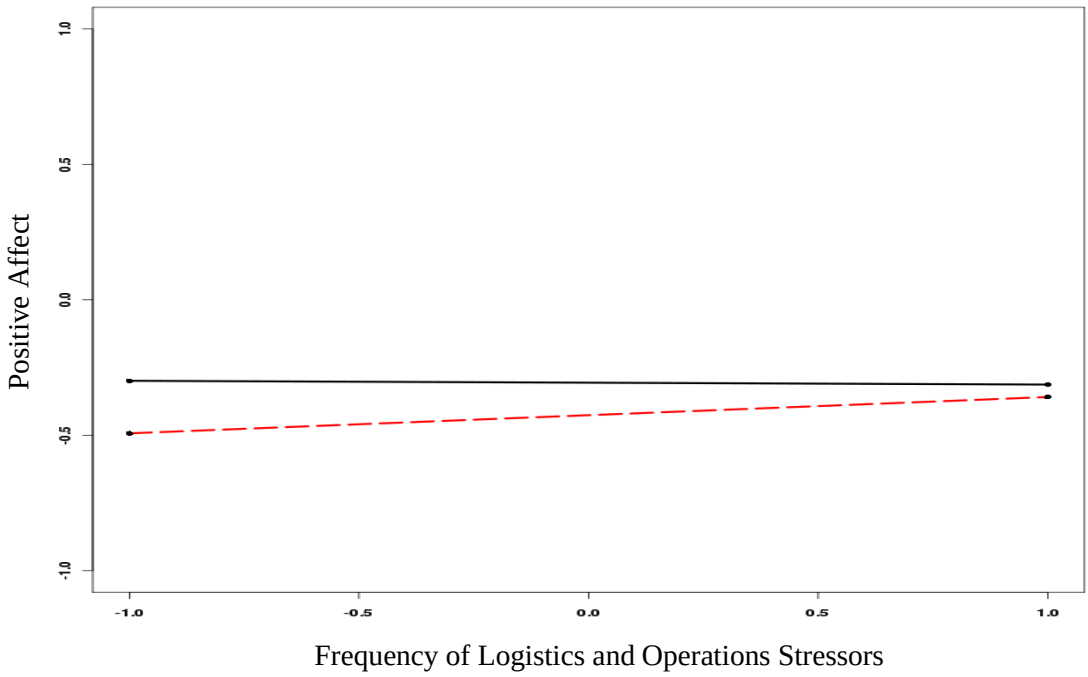

Figure 6.9. The Interaction of Frequency and Highest Duration of Logistics and Operations Organizational Stressors and Avoidance Coping on Positive Affect (Study Seven). ___: Avoidance coping - 1.00; _ _ : Avoidance coping + 1. 00

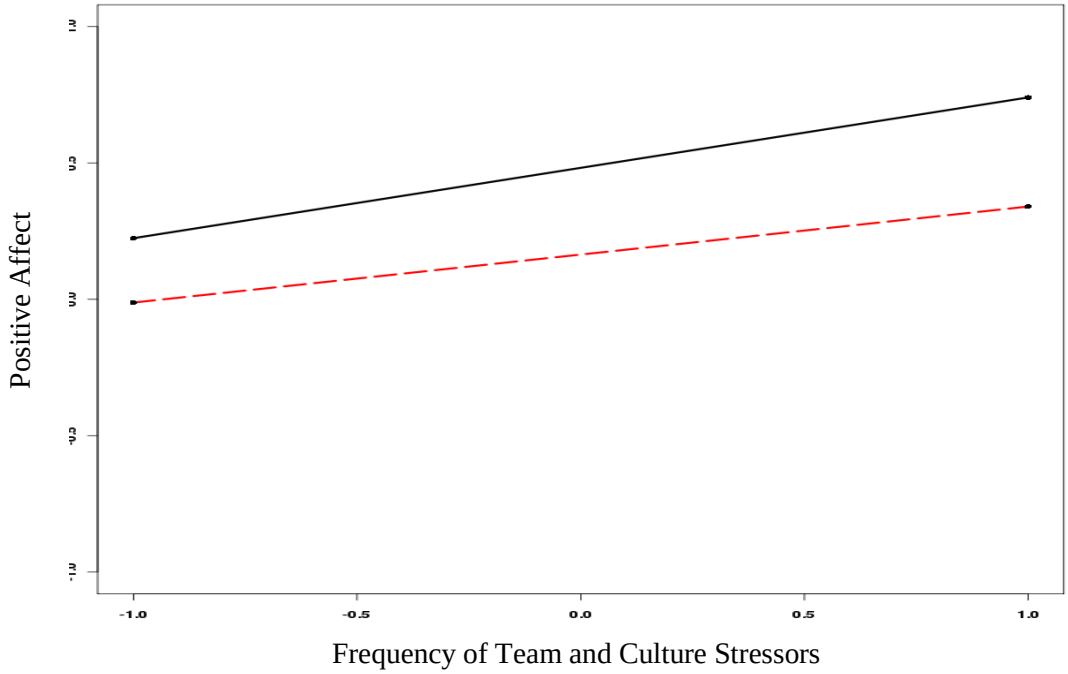

Figure 6.10. The Interaction of Frequency and Lowest Duration of Team and Culture Organizational Stressors and Avoidance Coping on Positive Affect (Study Seven). ___: Avoidance coping - 1.00; _ _: Avoidance coping + 1. 00

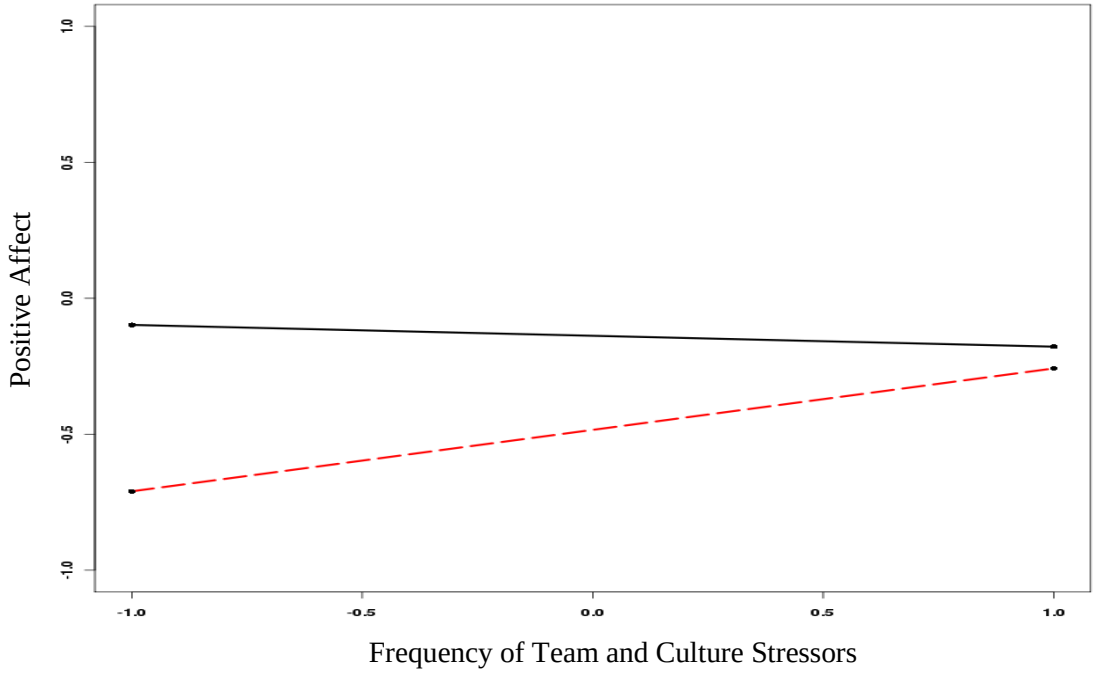

Figure 6.11. The Interaction of Frequency and Highest Duration of Team and Culture Organizational Stressors and Avoidance Coping on Positive Affect (Study Seven). ___ : Avoidance coping - 1.00; _ _: Avoidance coping + 1. 00

The results also revealed that there was a significant three-way interaction of frequency and duration of coaching stressors and avoidance coping on positive affect (ΔR^2 = .028, p < .001, B_7 = .125, SE = .034, p < .001) (see Figure 6.6). For low duration coaching stressors and low avoidance coping (W_1Z_1), the slope for frequency was positive and significant, t(405) = 2.31 p <.05, whereas for low duration coaching stressors and high avoidance coping (W_1Z_2), the slope was negative but non-significant, t(405) = -0.99, p =.32 (see Figure 6.12). For high duration coaching stressors and low avoidance coping (W_2Z_1), the slope for frequency was positive and non-significant, t(405) = 1.05, p =.29, whereas for high duration coaching stressors and high avoidance coping (W_2Z_2), the slope was positive and significant, t(405) = 2.05, p <.05 (see Figure 6.13).

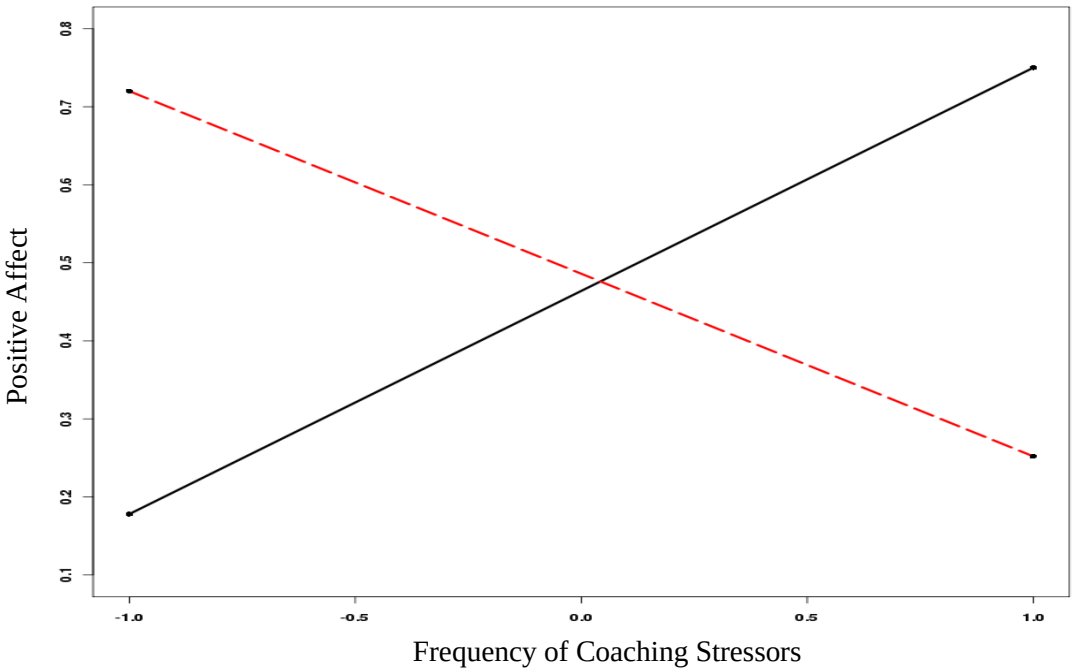

Figure 6.12. The Interaction of Frequency and Lowest Duration of Coaching Organizational Stressors and Avoidance Coping on Positive Affect (Study Seven). ___ : Avoidance coping - 1.00; _ _ : Avoidance coping + 1. 00

6.3233 Stage Three

No significant interactions were found at Stage Three of the stress process (see Figure 6.6).

6.4 DISCUSSION

Organizational stressors have the potential to create either positive or negative

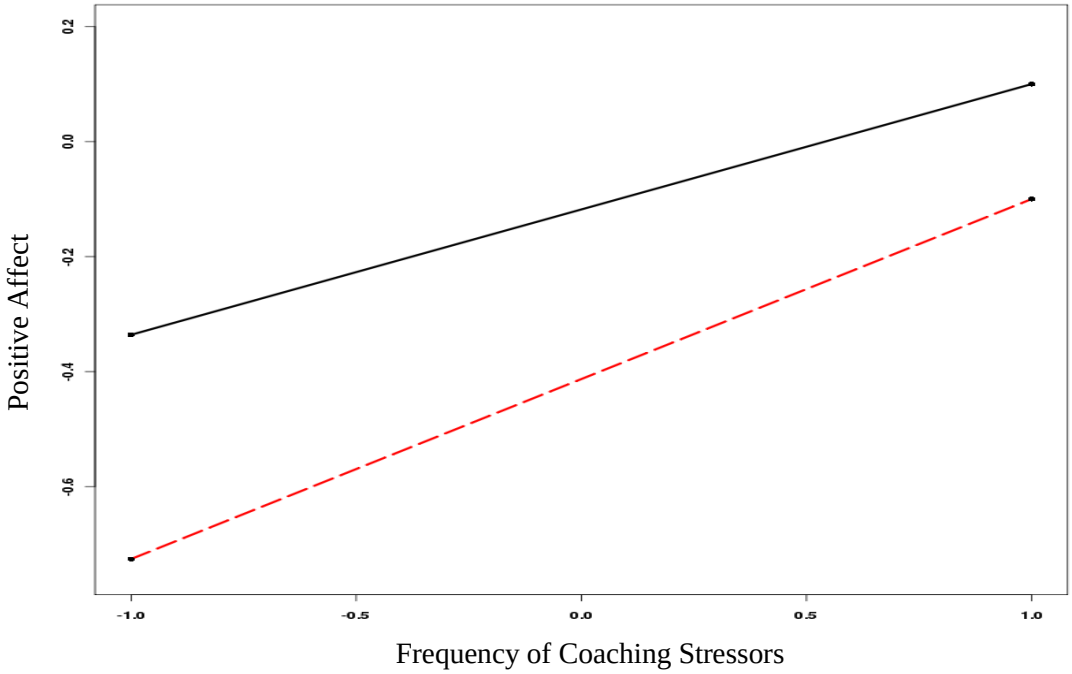

Figure 6.13. The Interaction of Frequency and Highest Duration of Coaching Organizational Stressors and Avoidance Coping on Positive Affect (Study Seven). ___: Avoidance coping -1.00; _ _: Avoidance coping + 1. 00

outcomes for sport performers. The meta-model of stress (cf. Fletcher et al., 2006) proposes that certain variables, such as coping style, moderate relationships in the stress process; therefore, the present study sought to test this theoretical proposition. Specifically, in addition to investigating the main effects between organizational stressors and outcomes and coping styles and outcomes, this study examined if coping styles moderate the relationship between the dimensions of organizational stressors and outcomes and the stages in the stress process at which such moderation occurs.

Firstly, the study hypothesised that organizational stressors would be related to positive affect, negative affect, life satisfaction, and performance satisfaction. In partial support of this hypothesis, it was found that the dimensions of many organizational stressors (goals and development intensity; logistics and operations intensity; team and culture frequency, intensity; coaching intensity; selection intensity) had a main effect on negative affect. Spector et al. (2000) have discussed substantive mechanisms that can help to explain why negative affect relates to job stressors. One of these is the causality mechanism which contends that exposure to high levels of job stressors tends to make people higher in negative affect; therefore, this mechanism appears applicable to explain the present findings. Alternatively, Spector et al. (2000) highlight how an individual's tendency to experience negative affect can influence his or her perceptions of stressors, meaning that someone who

has high levels of negative affect may perceive higher dimensions of stressors. Unfortunately, the cross-sectional nature of the present study inhibits causal inference; therefore, future research should adopt longitudinal designs to ascertain the exact nature of the relationship between stressors and negative affect. Interestingly, it is worth noting that there were no significant main effects of organizational stressors on positive affect, life satisfaction, or performance satisfaction as originally hypothesised. These findings are supported in personality and social psychology literature (see, e.g., Watson, 1988; Watson et al., 1988), which indicates that negative affect (but not positive affect) is related to self-reported stress, and positive affect (but not negative affect) is related to satisfaction.

The second main effects hypothesis in this study proposed that problem-focused coping would have a significant main effect on positive affect, whereas emotion-focused and avoidance coping would have a significant main effect on negative affect. In line with this hypothesis, problem-focused coping had a main effect on positive affect and emotion-focused coping had a main effect on negative affect. To explain this finding, individuals can experience situational mastery and control when using problem-focused coping which is critical for positive well-being (Carver & Scheier, 1998). In comparison, emotion-focused coping is typically an indicator of lack of control and inability to take direct action, which has been related to negative emotional outcomes (Ntoumanis & Biddle, 1998). The results of this study also revealed that problem-focused coping had a main effect on negative affect, which could perhaps be the result of ineffective problem-focused coping efforts. To elaborate, individuals may use problem-focused coping to meet challenges and implement solutions (cf. Bjorck & Cohen, 1993); therefore, if an individual does not meet challenges and/or implement solutions it is likely that they will experience feelings that constitute negative affect such as distress, upset, guilt, irritability, and fear.

With regards to avoidance coping, this style had an inverse main effect on positive affect and an additional main effect on the intensity of coaching stressors. Dewe et al. (2010) have described how avoidance coping entails trying to ignore the impact of a stressor. As a result, it is likely that if an individual ignores or avoids a stressor, its impact and exposure (frequency and duration) is not reduced or addressed as it would be with problem or emotion-focused coping; therefore, exerting a negative impact on the intensity of a stressor and an individual's positive affect. This finding is in accordance with studies on work-life conflict (cf. Rontondo, Carlson, & Kincaid, 2003; Snow, Swan, Raghavan, Connell, & Klein, 2003), which have found that avoidance coping is not likely to generate beneficial outcomes.

The moderation hypothesis in this study proposed that coping styles would moderate

the relationship between the dimensions of a range of organizational stressors and outcomes at different stages of the stress process. The results support this hypothesis with one interaction being found at Stage One of the stress process, three at Stage Two, and none at Stage Three. At Stage One, a two-way interaction was found between the frequency of logistics and operations stressors and emotion-focused coping when the dependent variable was the intensity of these stressors. This form of interaction indicates emotion-focused coping buffered the impact of frequency of stressors on intensity. It is likely that if sport performers experience a frequency of logistics and operations organizational stressors, emotion-focused coping can help to deal with the emotional disturbance resulting from these stressors before they are perceived as intense; therefore, buffering their effects.

At Stage Two, three interactions were found between avoidance coping and the frequency and duration of certain organizational stressors (logistics and operations, team and culture, and coaching) on positive affect. Across the simple slopes, it can typically be seen that organizational stressors are related to higher positive affect when avoidance coping is lower (regardless of the frequency and duration dimension of stressors) (see Figures 6.8, 6.9, 6.10, 6.11, 6.13). This can be explained by the gain in positive affect that individuals benefit from if they address (rather than supress) challenges (cf. Nezlek & Kuppens, 2008), since if suppression occurs a number of negative consequences can result (cf. Beal, Weiss, Barros, & MacDermid, 2005; Butler & Gross, 2009; Côté, 2005; Elfenbein, 2007; Gross, 2008). The only exception to this finding at Stage Two was for coaching stressors of a low frequency and low duration (see Figure 6.12), whereby higher levels of avoidance coping were associated with higher levels of positive affect. This could be explained by both the amount of time spent with a coach when participating in sport (see Chapter Three) and the benefits of an optimal coach-athlete relationship (cf. Jowett & Cockerill, 2002); therefore, the importance of, if attempting to heighten positive affect, only raising and addressing high exposure coaching stressors (e.g., high frequency/high duration) rather than annoying the coach with more trivial stressors that will not occur often nor last a long duration. Instead, by avoiding these lower exposure stressors, individuals are likely to offset potentially aversive conditions and situations with his or her coach and, in doing so, experience positive emotions and affect (cf. Folkman & Moskowitz, 2000). However, as illustrated in the main effects for Stage One (see Section 6.3231), individuals should be wary of using avoidance coping with coaching stressors in view of the main effect it can have on the perceived intensity of these stressors.

Notwithstanding the implication of the findings at Stage Two that avoidance coping should generally be avoided for organizational stressors, it is worth noting that for those

stressors that are perhaps out of an individual's control, this type of coping can be useful to distract an individual from a stressful encounter so that they can think about other tasks (Ben-Zur, 2009). For such stressors, it is worth noting that although lower avoidance coping was typically associated with higher positive affect across the simple slopes, higher avoidance coping did still increase positive affect as the frequency of stressors heightened (see Figures 6.9, 6.10, 6.11, 6.13).

Surprisingly, no significant interactions were found at Stage Three in this study between the perceived intensity of organizational stressors and outcomes. This could be because coping style operates in combination with another moderating variable at this stage of the stress process. Smith, Smoll, and Ptacek (1990) refer to two moderators operating in combination as the conjunctive moderating hypothesis, in which the presence of one moderating variable can offset the negative influence that another may create (Raedeke & Smith, 2004). Therefore, coping style alone may have produced a non-significant interaction between intensity of stressors and outcomes if the sport performers had strong levels of another moderating variable (e.g., social support, resilience, mental toughness).

A major strength of this study is that it is the first to examine the relationships between organizational stressors (as measured by the OSI-SP), coping styles, performance satisfaction, and well-being in competitive sport. Collectively, the results indicate that coping style is a moderating variable that can buffer the impact of organizational stressors on outcomes; therefore, providing support for the theoretical meta-model (Fletcher et al., 2006). In addition, the results demonstrate the theoretical and applied advantages of examining an expanded conceptualisation of organizational stressors, by providing insight into the temporal nature of coping styles in relation to the dimensions of stressors.

Notwithstanding these strengths, it is important to acknowledge the limitations of this study. Firstly, a cross-sectional design was used; therefore, although this was appropriate for exploratory research (cf. Crocker, Mosewich, Kowalski, & Besenski, 2010), future research should employ experimental and longitudinal designs to enable stronger causality conclusions. Secondly, self-report data was collected in this study which can be influenced by affective and attitudinal reactions, personality traits, habitual coping responses, and social constructions (see Section 2.23). To mitigate such concerns and reduce measurement confounding, scholars should look to collect more objective measurements of stress in future research. A further limitation of the present study was the number of moderated regressions conducted, which may have increased the risk of Type I error (Cohen et al., 2003). The lack of empirical findings in this area of research made it difficult to limit and refine hypotheses in

this study; however, only the most theoretically plausible hypotheses were tested and a Bonferroni correction was used to minimise the risk of error. On the contrary, it is worth noting that Siemsen, Roth, and Oliveira (2010) have suggested that interaction terms can actually be severely deflated because of common methods variance (CMV); therefore, making the effects more difficult to detect. To elaborate, Siemsen et al. (2010) suggest that:

> There is no reason that common method bias would create an artificial interaction effect . . . . we emphasize that empirical researchers should not be criticized for CMV if the main purpose of their study is to establish interaction effects. On the contrary, finding significant interaction effects despite the influence of CMV in the data set should be taken as strong evidence that an interaction effect exists. (p. 470)

To further advance theoretical knowledge in this area, empirical research investigating other moderating variables, such as resilience, should be conducted. These investigations should examine the stage at which significant interactions occur, since it may be the case that moderating variables have their greatest impact at different stages of the stress process. For example, although the terms are often used interchangeably, resilience and coping style may moderate relationships at different stages of the stress process, since Fletcher and Sarkar (in press) note:

> Resilience is characterized by its influence on one's appraisal prior to emotional and coping responses and by its positive, protective impact, whereas coping is characterized by its response to a stressful encounter and by its varying effectiveness in resolving outstanding issues.

Future research should also look to investigate the specific relationships between emotion regulation and coping (cf. Gross, 1998, 1999; Gross & Thompson, 2007; Sheppes & Gross, 2011). While emotion regulation literature was used in this study as a guide for the formation of the moderation hypothesis, it is necessary for further investigations to specifically examine *how* coping styles help to regulate a range of emotions when encountering organizational stressors in competitive sport (see Section 2.141 for example emotions experienced by sport performers).

To address organizational stress in competitive sport, it is firstly suggested that sport organizations look to take responsibility in helping to eliminate, or at least reduce, the frequency and duration of organizational stressors that sport performers encounter, since the

findings illustrate that this will have a main effect on the perceived intensity of stressors. Some organizational stressors, however, are an unavoidable part of contemporary sport (Fletcher et al., 2006); therefore, the findings of this study can offer a more cogent, evidence-based approach to optimally coping with these stressors. Specifically, sport psychologists are advised to provide individualised stress management interventions that take into consideration the stressors (and their associated dimensions) that a sport performer is encountering, the stage in the stress process at which intervention is required, and the performer's typical coping style. To address the organizational stressors an individual encounters and his or her coping, interventions could be developed that are cognitive or multimodal (see, for a review, Rumbold et al., 2012). The significant interactions found in this study have important implications for such stress management interventions. For example, to buffer the effects of the frequency of logistics and operations stressors on their intensity performers should adopt emotion-focused coping. The findings also highlight that avoidance coping buffers the effects of the frequency/duration of logistics and operations, team and culture, and coaching stressors on positive affect. Although avoidance coping may produce benefits in the short-term, it should be discouraged in the long-term, since it has been associated with alcohol abuse, eating disturbance, psychological distress, psychiatric symptomatology, somatic complaints, and health problems (Carver & Connor-Smith, 2010; Cooper, Russell, Skinner, Frone & Mudar, 1992; Endler & Parker, 1990; Koff & Sangani, 1997). Furthermore, the simple slopes illustrated that despite the buffering effects of avoidance coping, lower avoidance coping was typically associated with higher positive affect; therefore, further supporting the recommendation to use minimal avoidance coping where possible.

To conclude, the study reported in this chapter has investigated if a sport performer's coping style moderates the effects of organizational stressors on outcomes and the stage in the stress process at which such moderation occurs. In addition, the main effects of organizational stressors on outcomes and coping styles on outcomes have been examined. In the context of the overall thesis, this chapter extends Study Six (see Chapter Five) by investigating a further moderating variable, and the findings of the chapter have been interpreted and discussed to provide important advancements for theory regarding which coping styles buffer the impacts of organizational stressors on outcomes at different stages of the stress process (see also Section 7.21). Practically, by incorporating these findings into stress management interventions, practitioners can help performers to more optimally cope with organizational stressors to, ultimately, negate the negative and enhance the positive

outcomes associated with participation in competitive sport (see also Section 7.22).

7

SUMMARY, DISCUSSION, AND CONCLUSION

7.1 SUMMARY

This thesis has presented seven distinct but interlinked studies that have, collectively, assessed and examined the organizational stressors that sport performers encounter. In the author's opinion, the findings of these studies have furthered theoretical and scientific knowledge and understanding of organizational stressors (see Section 7.21). Practically, it is hoped that this contribution can inform sport psychologists' work in addressing the heightened prevalence of organizational stressors in competitive sport (see Section 7.22) and, in doing so, negate the undesirable consequences that they can create (see Section 1.212). This chapter will (a) summarise the issues examined in the seven studies and the central findings of each (see Sections 7.11 to 7.14), (b) discuss the theoretical contributions, practical implications, strengths and limitations, and future research directions (see Sections 7.21 to 7.24), and (c) present the main conclusion of the thesis (see Section 7.3).

7.11 STUDY ONE

The stimulus for Study One was the relatively small-scale, qualitative, and isolated nature of extant organizational stress studies in sport psychology. In an attempt to realise a more complete understanding of organizational stress in competitive sport and enhance the external validity of research in this area, it was deemed necessary to consider the experiences of a larger number and wider range of performers. To achieve this, the purpose of Study One was to synthesise the research that had identified the organizational stressors encountered by sport performers and develop a taxonomic classification of the findings. Specifically, a meta-interpretation method was adopted where the interpretations of organizational stressors from 34 studies were synthesised and extracted into elements, before subsequently being combined into subcategories, and later conceptualised into four categories. These categories were: Leadership and Personnel issues, Cultural and Team issues, Logistical and Environmental issues, and Performance and Personal issues. A key finding from this synthesis was that organizational stressors emanate from a wide range of sources within the sport environment, with some stressors appearing pervasive throughout an individual's sport experience, whereas others appear more peripheral. This finding has important implications, since it requires the

significance and impact of organizational stressors encountered by sport performers to be prioritised by sport psychologists. Conceptually, Study One extends previous frameworks of organizational stressors in sport psychology by basing the taxonomic classification solely on empirical data; identifying the stressors encountered by 1809 participants who range in age, gender, nationality, sport, and standard; and extracting 640 distinct organizational stressors. As a result of these advancements, Study One has produced the most accurate, comprehensive, parsimonious, and externally valid conceptualisation of stressors in sport organizations to date. In the context of the overall thesis the synthesis and taxonomic classification are fundamentally important, since they provide a comprehensive insight into the existing knowledge base, and a rigorous and robust foundation for the development of an assessment indicator.

7.12 STUDIES TWO-FIVE

Although much is known about the organizational stressors that sport performers encounter (see Chapter Three), there has been no comprehensive, reliable, and valid measure developed to assess these phenomena in the sport context. As a result, the aim of Studies Two to Five was to develop and validate a measure of organizational stressors for usage in competitive sport. Specifically, this series of related studies aimed to (a) provide evidence for the content validity of an organizational stressor item pool and gauge how applicable the developed items were to sport performers, (b) analyse the factorial composition of the emergent items via an exploratory factor analysis (EFA), (c) use a confirmatory factor analysis (CFA) to cross-validate the findings of the EFA with a different sample of performers, and (d) use a further sample of sport performers to cross-validate the structure of the measure, investigate if components of the measurement model were invariant across different groups, and examine the relationships between organizational stressors and other relevant concepts. The result of these four studies was a 23-item measure, labelled the Organizational Stressor Indicator for Sport Performers (OSI-SP) (see Appendices Five and Six), which can be used to assess the frequency, intensity, and duration of organizational stressors. The OSI-SP consists of five subscales: Goals and Development, Logistics and Operations, Team and Culture, Coaching, and Selection; and findings from Studies Two to Five reveal that the indicator provides an accurate and reliable measure of these stressors. Furthermore, the results also provide evidence for the content, factorial, discriminant, and concurrent validity of the OSI-SP, as well as its factorial invariance across gender, sport type,

competitive level, and competitive experience. Overall, these results indicate that Studies Two to Five have made a significant contribution to this area of research, by developing the first comprehensive, valid, and reliable measure of the organizational stressors that sport performers encounter. Practically, the OSI-SP can be used as a diagnostic measure to assess and better understand the organizational stressors and environment in competitive sport. For example, the development and validation of the OSI-SP in Studies Two to Five has enabled individual demographic differences in organizational stressors to be examined in Study Six, and the moderating influences of coping style on the organizational stress process to be investigated in Study Seven.

7.13 STUDY SIX

Limited attention has been afforded to investigating how organizational stressors vary according to individual demographic differences in extant sport psychology research. As a result, the purpose of Study Six was to examine if the frequency, intensity, and duration of organizational stressors encountered by sport performers vary as a function of gender, sport type, and performance level. To achieve this aim, a large number and diversity of sport performers were recruited and multivariate analyses of covariance (MANCOVAs) were conducted to examine the effects of individual demographic differences on a number of organizational stressors (as measured by the OSI-SP). The findings of Study Six illustrate that, for gender, males encounter a significantly higher frequency, intensity, and duration of logistics and operations organizational stressors than females, and females encounter a significantly higher frequency, intensity, and duration of selection organizational stressors than males. For sport type, performers competing in team or team and individual based sports encountered a higher frequency, intensity, and duration of logistics and operations, team and culture, and selection organizational stressors than those competing in individual based sports. The findings also revealed performance level differences in that sport performers competing at higher performance levels (e.g., national or international level) typically experienced organizational stressors more frequently, at a higher intensity, and for a longer duration than those competing at lower levels (e.g., regional or university and county or club level). In the author's opinion, Study Six furthers theoretical knowledge and understanding of organizational stress in sport, by identifying the individual demographic differences (personal characteristics) that affect the dimensions of organizational stressors. Practically, it is suggested that sport psychology practitioners incorporate the findings of this study into their applied practice to prepare more appropriate and individualised stress management

interventions so that, ultimately, the negative connotations of stressors can be reduced and a sport performer's well-being and performances enhanced.

7.14 STUDY SEVEN

The impetus for this Study was that although coping style is proposed in the meta-model as a moderating variable of the organizational stress process (cf. Fletcher, et al., 2006; see also Section 2.142), there is an absence of sport psychology research examining this proposition and the stages in the stress process at which such moderation occurs. Therefore, the aim of Study Seven was to investigate the moderating effects of coping style on the relationship between organizational stressors and outcomes at different stages of the stress process. In addition, the main effects of a range of organizational stressors (and their associated dimensions) on outcomes, and coping style on outcomes were also examined. Moderated hierarchical regression analyses revealed four significant interactions: one at Stage One of the stress process between emotion-focused coping and the frequency of logistics and operations stressors on the intensity of these stressors, and three at Stage Two between avoidance coping and the frequency and duration of organizational stressors categories (logistics and operations, team and culture, coaching) on positive affect. Furthermore, the results illustrated main effects of a number of organizational stressor dimensions on negative affect, problem-focused coping on positive and negative affect, emotion-focused coping on negative affect, and an inverse effect of avoidance coping on positive affect. Collectively, these results can contribute to theory in this area, since they provide the first insight into coping as a moderator of the organizational stress process in sport, and the main effects of organizational stressors and coping styles on outcomes. In addition, the results of Study Seven demonstrate the theoretical and applied advantages of examining the multidimensional nature of organizational stressors, by providing insight into the temporal nature of coping styles in relation to the dimensions of stressors. Practically, the results can provide a more evidence-based approach to developing individualised stress management interventions, by considering stressors (and their associated dimensions), the stage in the stress process at which intervention is required, and a sport performer's typical coping style.

7.2 DISCUSSION

7.21 THEORETICAL CONTRIBUTIONS

This programme of research has examined and advanced understanding of various components and stages of the meta-model of stress, emotions, and performance (see Figure 7.1). Located in the Person-Environment (P-E) fit stage of the meta-model (see Section 2.141), Study One has adopted a stimulus-based approach to synthesise the research that has examined the organizational stressors that sport performers encounter and, subsequently, produced a taxonomic classification. This study contributes to the theoretical meta-model by: illustrating the variety of organizational stressors that sport performers encounter; providing insight into the potential interface between, and interactive impact of, stressor themes; making the distinction between pervasive and peripheral stressors; and highlighting those stressors that cohere and contrast across different sport performer's stress experiences. Furthermore, it is argued that the synthesis and taxonomic classification in Study One meet critical criteria for advancing psychological theory (cf. Klein & Zedeck, 2004), since together they provide the most accurate, comprehensive, parsimonious, and externally valid conceptualisation of stressors in sport organizations to date. It is important to acknowledge, however, that the taxonomy represents the author's interpretation of the research synthesised; therefore, it is likely that modifications will be required, and further theoretical insights provided, as new stressors emerge in sport organizations.

For some time now, scholars have argued that the most fundamental and significant hindrance to testing the meta-model has been the lack of a valid and reliable measure that can be used to assess organizational stressors in the sport context (Fletcher & Hanton, 2003b; Fletcher et al., 2006; Hanton et al., 2005; Kristiansen, Halvari et al., 2012). To address this, a measure of the organizational stressors that sport performers encounter has been developed and validated in Studies Two to Five, based on the findings of Study One. Similar to the first Study, this measure is also situated in the P-E fit stage of the meta-model. Specifically, as Figure 7.1 illustrates, Studies Two to Five encapsulate both objective environmental stressors and subjective perceived stressors, since the measure assesses both the more 'objective' frequency and duration characteristics of stressors and the more 'subjective' perceived intensity of these stressors. Although the development of the measure is located in the P-E fit stage, once validated the OSI-SP can be used in conjunction with other measures to further understanding of the organizational stress process in sport and the relationships between the different stages and main components of the meta-model. For example, Study Five examined the concurrent validity of the OSI-SP by investigating the relationships between the organizational stressor subscales and other concepts. Specifically, by measuring emotions

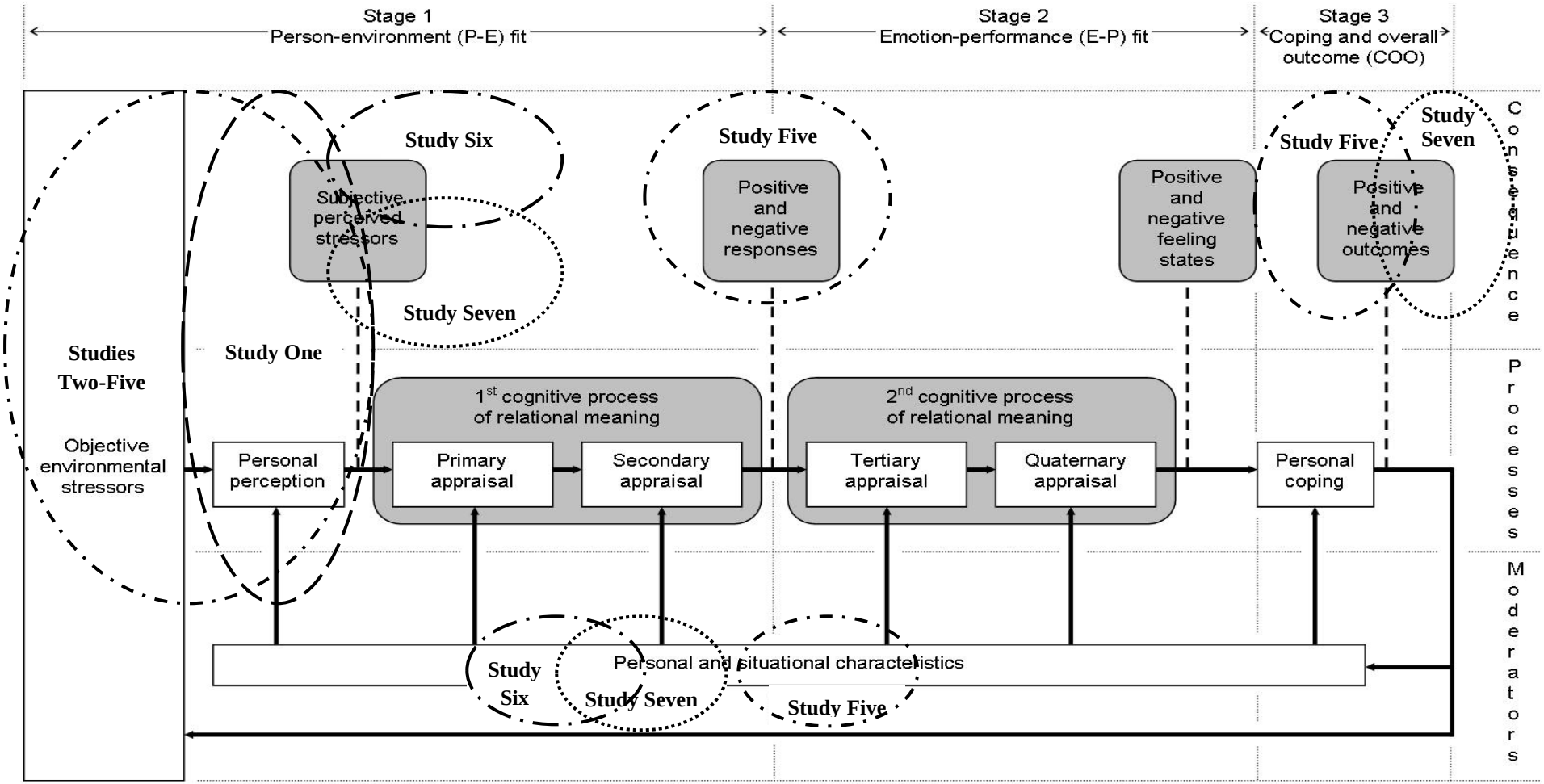

Figure 7.1. Areas of the Meta-Model that this Programme of Research has Examined and Advanced Understanding of. Adapted with permission from Fletcher & Fletcher (2004, 2005).

(responses), satisfaction (outcomes), the group environment, coach-athlete relationship, and perceived tangible support (situational characteristics), Study Five furthers our knowledge of relationships between components that are situated at different stages of the organizational stress process in competitive sport (Figure 7.1).

It is worth briefly explaining why a measure was developed that only assesses the stressors that sport performers encounter, when it is apparent from the meta-model that researchers should ultimately strive to provide a comprehensive assessment of the overall stress phenomenon. This decision was made after identifying a large number of organizational stressors that sport performers encounter (see Chapter Three) and reviewing the psychometric issues encountered by scholars that have already developed measures of organizational stressors (see Section 2.2). It became clear after conducting these two reviews that rather than attempting to develop a single measure of organizational stress, it would perhaps be more pragmatic to develop a series of measures that assess the main components of the stress process. The following quote by Cooper et al. (2001) appears to support this decision:

> At the construct level, there is a need to develop measures that capture important facets of the stress process and to ensure that all key facets of that process are assessed appropriately . . . . Researchers should resist the temptation to measure the process before adequate consideration has been given to construct measurement. (p. 22)

Following this decision to develop a series of measures, it seemed logical to begin by developing a measure to assess the stimulus of the organizational stress process in sport (see Chapter Four), before progressing to the measurement of other components.

The personal characteristics component of the meta-model that is explained in Section 2.142 has been investigated in Studies Six and Seven (see Figure 7.1). Specifically, Study Six has examined and provided a theoretical insight into the individual demographic differences in the organizational stressors that sport performers encounter, and Study Seven has examined if the personal characteristic coping style moderates relationships in the stress process. In addition to investigating the personal characteristics component of the meta-model, Study Seven is also situated across the Person-Environment (P-E) fit and the Coping and Overall Outcome (COO) stages (see Sections 2.141 and 2.143) by measuring stressors and positive and negative affect, life and performance satisfaction. A further theoretical contribution that Studies Six and Seven can provide is that both offer support for examining

an expanded conceptualisation of organizational stressors (i.e., frequency, intensity, duration). Specifically, Study Six identifies variation in the dimensions of stressors according to individual demographic differences, and Study Seven illustrates the temporal nature of coping styles in relation to the dimensions of stressors.

7.22 PRACTICAL IMPLICATIONS

Stress management interventions in sport psychology have typically focused on changing an individual's reactions to stressors, rather than modifying the sport environment (cf. Rumbold et al., 2012). This focus seems surprising, since interventions which change the sport environment have the potential to impact a greater number of sport performers than individual-level coping strategies, and evidence demonstrates that they can create a more lasting effect (see Section 2.144; see also Ganster et al., 1982). Interventions that target the environment are known as primary stress management interventions (PSMIs), which typically aim to reduce the number, frequency and/or intensity of stressors that sport performers encounter in a preventative way. Studies One to Six in this thesis have important implications for PSMIs. To elaborate, the synthesis and taxonomic classification in Study One can provide sport psychology practitioners with insight into the wide variety of organizational stressors that sport performers encounter, the distinction between pervasive and peripheral stressors, and the stressors that cohere and contrast across sport performers' experiences. It is hoped that, collectively, the findings of Study One can help practitioners to make more effective decisions when delivering PSMIs with sport performers, prioritising the presence, significance, and impact of organizational stressors.

In addition to using their own knowledge and judgement to make decisions, sport psychologists can ask the performers themselves about the stressors they are encountering. The OSI-SP developed and validated in Studies Two to Five can help in this regard, since it provides a diagnostic measure that sport psychologists can ask sport performers to complete to gauge and better understand the organizational environment in competitive sport. Specifically, the OSI-SP can illustrate the frequency, intensity, and duration of the stressors that a sport performer has encountered over the past month. Sport psychologists can then share this diagnostic information (at a group level) in PSMIs with sport organizations, to raise awareness of and prevent or reduce the stressors that are evident within the organization. Although assessment has been widely used and recognised in sport psychology consultancy (cf. Harwood & Anderson, 2012; Hemmings & Holder, 2009; Parham, 2005; Tkachuk,

Leslie-Toogood, & Martin, 2003), it is suggested that when incorporating the OSI-SP into interventions, practitioners not only draw from sport psychology, but also look at the lessons learnt by general and organizational psychologists. For example, a particularly popular method identified in occupational psychology that is also relevant to the sport context is the stress audit (cf. Cooper et al., 2001; Dewe et al., 2010). In a stress audit, consultants adopt questionnaires and other methods to systematically explore stress levels in organizations and identify the underlying causes. To incorporate these principles into sport psychology consultancy, practitioners could use the OSI-SP in a PSMI, perhaps in collaboration with other methods, to provide an insight into the competitive sports environment and the stressors (and their associated dimensions) that are being encountered and potentially causing strain for performers. A further example of primary stress management work that sport psychology could learn lessons from is the UK Health and Safety Executive's Management Standards for Work Related Stress. Specifically, this approach is targeted at controlling stressors rather than their consequences and has an indicator tool to assess stressors, a process for taking action when stressors are identified, and target states to be achieved within a workforce (Cousins, MacKay, Clarke, Kelly, Kelly, & McCaig, 2004; McKay et al., 2004). Furthermore, sport psychology practitioners can also learn lessons from occupational health interventions (implemented at the organizational-level), which have been found to have the best chance of achieving a significant impact when they follow a structured intervention process (e.g., preparation, screening, action planning, implementation, and evaluation phases) and include employee participation (cf. Nielsen & Randall, 2012; Nielsen, Randall, Holten, & González, 2010).

When designing and implementing a PSMI, practitioners should also consider the findings of Study Six to help make their consultations more individualised and appropriate. Specifically, Study Six provides practitioners with insight into the individual demographic differences (e.g., gender, sport type, and performance level) that can affect the type and dimensions of organizational stressors that a sport performer encounters. In addition to working with groups and at the organizational level, the OSI-SP can also be used when consulting on a one-to-one basis to illustrate and address the specific organizational stressors (and their associated dimensions) that an individual has encountered over the past month.

Notwithstanding the contribution that the findings of this thesis can make to removing stressors in the sporting environment, it is important to acknowledge that there exist some organizational stressors that are unavoidable (Fletcher et al., 2006). For these stressors, sport psychologists can implement a secondary stress management intervention (SSMI) to help

sport performers manage and cope with stressful conditions (see Section 2.144; see also Arnold & Randall, 2010). The findings of Study Seven can support practitioners in this quest, by offering a more cogent, evidence-based approach to optimally coping with organizational stressors. Specifically, the results provide practitioners with specific recommendations on the main effects of stressors on outcomes, coping styles on outcomes, and the stages in the stress process at which certain coping styles can buffer relationships between the frequency/duration of organizational stressors, their intensity, and outcomes. By incorporating these findings into their applied practice, practitioners can help sport performers to become more aware of his or her coping style when encountering organizational stressors and the effect this may be having on various outcomes. In addition to raising awareness, practitioners can also help performers to improve their stress management skills (see Section 2.144; see also Rumbold et al., 2012) to, ultimately, negate the negative and enhance the positive outcomes associated with participation in competitive sport.

It is also crucial that sport psychologists evaluate the effectiveness of any implemented interventions (see Section 2.144). It is suggested that lessons are drawn from work and organizational psychology literature when conducting such evaluations. For example, Randall, Griffiths, and Cox (2005) have suggested that combining process and outcome evaluations is appropriate in complex and unpredictable environments, such as sport, and can strengthen the overall evaluation of stress management interventions. In addition, the use of participants' narratives of what has happened during an organizational-level intervention (Randall, Cox, & Griffiths, 2007) and their appraisals of the intervention itself (Nielsen, Randall, & Albertsen, 2007; Randall, Nielsen, & Tvedt, 2009) have also proven to be useful during intervention evaluations.

7.23 STRENGTHS AND LIMITATIONS

Table 7.1 displays the strengths and limitations associated with the studies reported in this thesis. In addition to this table, it is also worth mentioning some of the more general strengths and limitations associated with this programme of research. A main strength is the magnitude of sport performers sampled and involved. To elaborate, the OSI-SP was developed in Studies Two to Five based on the stressors encountered by a total of 1809 sport performers (see Chapter Three), reviewed by a panel of 28 experts and a usability panel of 10 sport performers, and validated by a total of 1277 sport performers who ranged in gender, age, sport type, competitive level, and competitive experience (see Chapter Four).

Table 7.1. *The Strengths and Limitations Associated with the Studies Reported in this Thesis.*

Study	Strengths	Limitations
1	• Synthesises 640 distinct organizational stressors, of which a number are diverse and do not feature in existing frameworks • Identifies and organises the stressors encountered by 1809 participants who range in age, gender, nationality, sport, and standard; therefore, considering the stressor experiences of a larger number and wider range of sport performers than previous research in the area • Provides the most accurate, comprehensive, parsimonious, and externally valid conceptualisation of stressors in sport organizations to date • Meta-interpretation has an interpretive rather than aggregative focus which allows novel patterns to emerge from the data. The method can also avoid isolationist and esoteric work, provide a comprehensive insight into the existing knowledge base, generate more satisfactory answers to research questions, and produce accessible and powerful results • The author's meta-level interpretation was used for the appellation of subcategories and categories within the taxonomic classification to avoid framework labels being predetermined by previous research • Frequencies (and duplicates) displayed in taxonomic classification can help to distinguish between pervasive and peripheral stressors (and those that cohere and contrast across participants' stress experiences)	• Study reflects a publication bias, since it only included published (and, at the time of analysis, in press) studies during the meta-interpretation process • Meta-interpretation approach can detach researchers from direct contact with original research participants, by integrating previously analysed data • Meta-interpretation can pose threat of triple hermeneutic effect, which can potentially lose some individual differentiations in the move from specific to generic data • Study is based on the author's interpretation of research rather than a definitive account; therefore, it is likely that new stressors will emerge in the future and the conceptualisation of organizational stressors will need to be refined accordingly • Some scholars have argued that synthesising qualitative studies can lose the integrity and vitality of the experiences represented in the original studies

	• Study provides a rigorous and robust foundation for the development of an assessment indicator	
2-5	• The OSI-SP is based on a robust qualitative meta-interpretation of research that has identified organizational stressors, and a review of psychometric issues from other sub-disciplines of psychology • Provides the first valid and reliable measure of the organizational stressors encountered by sport performers • Evidence is provided for the indicator's content, concurrent, discriminant, and factorial validity, and also its internal consistency and factorial invariance • The OSI-SP can be used to assess a comprehensive range of organizational stressors in competitive sport. The indicator also captures general and specific organizational stressors, which enables comparisons between different groups and settings and enhanced ecological validity • The OSI-SP assesses the multidimensional nature of stressors, by measuring the frequency, intensity, and duration of demands • The OSI-SP was developed and validated with a large number and wide range of sport performers (e.g., different genders, ages, sports, and performance levels) • The OSI-SP provides researchers with a measure that, used in conjunction with other measures, can further our understanding of the organizational stress process in sport and the relationships between the main components	• Cross-sectional nature of the studies inhibits causal inference • Self-report data was collected in this study which can be influenced by affective and attitudinal reactions, personality traits, habitual coping responses, and social constructions

	• The OSI-SP provides a diagnostic measure that researchers and practitioners can use to assess environmental stressors and to better understand the organizational environment in competitive sport • Studies partially accounted for social desirability by asking participants to answer in an honest and open way, and for confounding by minimising the cognitive and emotional processing, and initially measuring just stressors rather than the whole stress process	
6	• Large and diverse sample of sport performers • Provides a comprehensive first investigation into the effect of gender, sport type, and performance level on the frequency, intensity, and duration of a number of organizational stressors. These findings can further theoretical knowledge and understanding of organizational stress in sport • The findings enable applied practitioners to develop more bespoke and appropriate interventions for sport performers	• Some researchers have contended that the performance level variable does not take amount of experience or the many different facets of expertise into consideration • Data was collected at an individual level only; therefore, it was not possible to examine relationships between different team member's stress experiences • Cross-sectional nature of the study inhibits causal inference • Self-report data was collected in this study which can be influenced by affective and attitudinal reactions, personality traits, habitual coping responses, and social constructions
7	• Provides the first study to examine the main and interactive relationships between organizational stressors (as measured by the OSI-SP), coping styles, performance satisfaction, and well-being in competitive sport	• Cross-sectional nature of the study inhibits causal inference • Self-report data was collected in this study which can be influenced by affective and attitudinal reactions, personality traits, habitual coping responses, and social constructions

- This study measures various components in the meta-model; therefore, furthering theoretical understanding across stages of the stress process

- The moderating effects of coping style are investigated at three different stages of the stress process

- Despite the typically low power of moderated regressions, four significant interactions were found

- The results indicate that coping style is a moderating variable that can buffer the impact of organizational stressors on outcomes; therefore, providing support for the theoretical meta-model

- Studies controlled for confounding by measuring personality and negative affect (which have been identified as confounding variables in stress measurement)

- Results demonstrate the theoretical and applied advantages of examining an expanded conceptualisation of organizational stressors, by providing insight into the temporal nature of coping styles in relation to the dimensions of stressors

- Findings can offer a more cogent, evidence-based approach to assist sport psychologists in providing individualised stress management interventions that take into consideration stressors (and their associated dimensions), the stage in the stress process at which intervention is required, and a performer's typical coping style

- A number of moderated regressions were conducted, which may have increased the risk of Type I error

Furthermore, the OSI-SP was used with an additional 414 sport performers in Study Seven (see Chapter Six). Therefore, by developing, validating, and using the OSI-SP with a total of over 3500 sport performers, this programme of research has ensured the relevance of the measure to the sport context and heightened the transferability of the findings. In addition to sampling a large number and diverse range of sport performers, a further strength is that all participants involved in the validation of the measure were sampled within their natural settings; therefore, enhancing the ecological validity of the findings.

Turning from the sample recruited to the output created in this programme of research, a main strength is that researchers and practitioners now have a valid, reliable, and comprehensive measure of the organizational stressors in competitive sport that they can use with performers. It is hoped that the creation and validation of the OSI-SP will now trigger a body of research in which scholars adopt the indicator to further investigate organizational stressors and also test various theoretical propositions in the meta-model. A further strength of this programme of research is that both qualitative (see Chapter Three) and quantitative (see Chapters Four, Five, and Six) methods have been used to develop and validate the OSI-SP. The adoption of both methods has enabled the fine detail of sport performers' organizational stressor experiences to be explored, but also empirically measured and investigated.

Regarding limitations, it is clear from Table 7.1 that a universal shortcoming across the seven studies reported in this thesis is the cross-sectional and self-report nature of the data collected. The problem with cross-sectional data is that it only captures organizational stressors at one time-point and, therefore, inhibits causal inference. Despite this shortcoming, cross-sectional data was considered appropriate for developing and validating the measure and initially exploring relationships in this area; however, future research should adopt longitudinal designs to better capture the on-going nature of organizational stress. A further limitation of this programme of research is the self-report data collected from sport performers, which researchers have suggested can be influenced by affective and attitudinal reactions, personality traits, habitual coping responses, and social constructions (see Section 2.23; see also Greiner et al., 1997; Spector, 1992). In view of the limitations of self-report data, some researchers have advocated the use of objective measures of stress (Kasl, 1987; 1996; Kristensen, 1995; Spector, 1999). As discussed in Section 2.23, however, objective measures are still ultimately underpinned by an individual's perception of their environment, since stress is a cognitive phenomenon with a subjective nature. To address this subjective versus objective debate and minimise the limitations of objective and subjective methods, a

measure was developed that sought an individual's subjective perceptions of stress (e.g., by assessing intensity of stressors), though captured them in a way that also minimised cognitive and emotional processing (e.g., by assessing frequency and duration of stressors) (see Sections 2.23 and 7.21; see also Kasl, 1998).

A further limitation of this programme of research was that the OSI-SP only assesses one component of the overall stress process. Scholars, who appear to be settling on the transactional conceptualisation of stress, describe stressors as only one part of the broader stress process and not necessarily a condition for strain (Fletcher et al., 2006; Hurrell et al., 1998). As a result, an individual's appraisal and coping should also be measured in order to ascertain both the meaning and significance of presenting stressors and an individual's evaluations of what he or she feels can be done to cope with presenting stressors. Therefore, as was suggested in Section 2.21, ultimately researchers should strive to measure the overall stress process, including stressors, appraisals, responses, coping, and outcomes. However, this was not considered pragmatic in the present programme of research (see Sections 2.21 and 7.21); therefore, it was decided that it would be more appropriate to begin by developing a measure of stressors, before progressing to other facets of the stress process. Although it was beyond the scope of the present programme of research to develop and validate these subsequent measures, pre-validated measures were adopted to assess other constructs after developing and validating the OSI-SP, such as: emotions, athlete satisfaction, perceived available tangible support, the group environment, the coach-athlete relationship, coping style, personality, positive affect, negative affect, life satisfaction, and performance satisfaction. It is suggested that future research looks to further examine the relationships between organizational stressors and these and other concepts, and develop and validate measures of subsequent components in the organizational stress process that can be used in collaboration with the OSI-SP.

7.24 FUTURE RESEARCH DIRECTIONS

This programme of research has helped to advance knowledge and understanding of organizational stressors in competitive sport. To further knowledge in this area, Table 7.2 summarises the suggested future research directions emerging from the studies reported in this thesis. The remainder of Section 7.24 will forward some general suggestions for prospective research on organizational stress, and will be separated into three sections: methodological developments, measurement developments, and other areas of the

Table 7.2. *Suggested Future Research Directions Emerging from the Studies Reported in this Thesis.*

Study	Suggested Future Research Directions
1	• Further explore the essence of the organizational stressor phenomenon • Refine and extend the conceptualisation of organizational stressors as new stressors emerge in the future • Further investigate the interactions and relationships between the categories and subcategories presented in the taxonomy • Explore in more detail how participants' stress experiences cohere and contrast • Examine relationships between different types of stressors, such as those between occupational and personal stressors (commonly referred to as work-life conflict) • Consider adopting alternative data collection and analysis techniques, including multivariate statistics, to more rigorously investigate the organizational stress process in competitive sport. This will help to enhance understanding of how organizational-related factors cause strain and under what particular circumstances these stressors impact on well-being and performance • Examine the different properties of stressors, such as the intensity, duration, prevalence, quantity, timing, specificity, and closeness, and the underlying properties of situations appraised as stressful, such as novelty, predictability, event uncertainty, imminence, duration, temporal uncertainty, ambiguity, and timing • Develop and validate a measurement indicator to assess organizational stressors, so that, ultimately, researchers can focus the empirical lens on the intricate theoretical relationships that exist between organizational stress-related concepts • Examine the underlying mechanisms of the stressor-strain relationship (e.g., individual control and also ownership at a group level) • Develop, implement, and evaluate a stress management intervention that encourages sport organizations to acknowledge the full impact of their own processes and procedures in addressing organizational stress in sport performers
2-5	• Continue to develop and use a series of measures that assess the main components of the stress process and capture the relationships between them • Incorporate the OSI-SP into research to investigate the relationships between organizational stressors and other concepts • Continue to test and examine the model fit (and alternative models) of the OSI-SP with different samples • Examine the use of the hierarchical model in complex structural equation modelling • Conduct and evaluate studies that adopt only the frequency response scale of the OSI-SP as a shortened version of the indicator • Assess organizational stressors across different groups of sport performers and make comparisons between them • Examine in greater detail the correlations reported in Study Five, in particular those between organizational stressors and the group environment, and organizational stressors and perceived commitment and complementarity in the coach-athlete relationship • Consider adopting a triangulation strategy that incorporates multiple methods (e.g., self-reports, observations, physiological indices) into a study design

	• Adopt longitudinal designs to better capture the complex and on-going nature of organizational stress
6	• Investigate further personal and situational characteristics that may moderate relationships in the stress process • Consider performance level, sporting experience, and expertise in future classification systems • Adopt more complex designs to examine if stressors and strain experienced by one individual might be transmitted to others in their group, known as stress contagion • Develop, implement, and evaluate both primary and secondary stress management interventions that utilise this study's findings
7	• Continue to empirically test theoretical propositions from the meta-model and other theories of organizational stress • Adopt longitudinal designs to: ascertain the exact nature of the relationship between organizational stressors and negative affect in the sport context, to enable stronger causality conclusions, and examine the long-term effects of stressors on outcomes • Investigate other moderating variables (e.g., resilience) • Examine the stages of the stress process at which moderators interact with other variables, e.g., between appraisal and coping, and coping and outcomes • Investigate the presence of two moderators operating in conjunction (e.g., resilience and coping) • Specifically examine *how* coping styles help to regulate a range of emotions when encountering organizational stressors in competitive sport • Collect more objective measurements of stress in collaboration with use of the OSI-SP • Develop, implement, and evaluate individualised stress management interventions that take into consideration the stressors (and their associated dimensions) that a sport performer is encountering, the stage in the stress process at which intervention is required, and the performer's typical coping style

organizational stress process.

7.241 Methodological Developments

It is suggested that future research investigating organizational stress continues to observe sport performers within their natural settings and makes use of qualitative and quantitative methods. The usage of qualitative research methods, such as observations, reflexive journals, interviews, and document analyses, will enable researchers to explore the contextual richness and idiographic nature of the organizational stress process in sport. In comparison, quantitative research such as experiments, variable manipulations, and data modelling, will enable conclusions to be drawn regarding the organizational stress phenomenon and results to be projected to larger populations. A limitation of this programme of research, as illustrated in Section 7.23, was the self-report and subjective nature of the data collected. As a result, it is suggested that future research in this area begins to adopt more objective measures of organizational stressors (e.g., physiological indices). Example indices could include measures of arousal, blood pressure, heart rate, respiration rate, hormones, and galvanic skin responses (see, for a review and critique, Clow, 2001; Fried, Rowland, & Ferris, 1984; Winters, 2011). However, in view of the limitations of objective methods (see Section 2.23), researchers are advised to develop triangulation strategies that incorporate both subjective and objective methods, so that the shortcomings of one method can be attenuated by the strengths of the other.

Future research should also look to adopt Bayesian networks (cf. Darwiche, 2009; Kenett, Perruca, & Saini, 2012; Koski & Noble, 2011). These nets will enable scholars to construct optimal webs of organizational stressors so that experiments and “what if” scenarios can be constructed in order to test the effects of hypothetical interventions or events in an exploratory way, before actually attempting real life interventions. Such experiments will be particularly informative if further aspects of the stress process are integrated in addition to stressors, since this would allow the impact of stressor reduction or amplification to be traced all the way through the system to the ultimate outcomes. Furthermore, the conditional probability tables from these Bayesian networks could be applied to hypothetical populations (counts) of athletes to project the impact (and even cost-savings) of large scale stressor interventions. This would enable researchers and practitioners to identify how many health problems and other issues (see Section 1.212) can possibly be eliminated or at least significantly alleviated through the implementation of certain types of programmes.

7.242 Measurement Developments

Following the development and validation of the OSI-SP in this programme of research, it is suggested that future research adopts this indicator within its designs to further examine organizational stressors and their relationships with other concepts. In addition, the cross-cultural validity of the indicator could be tested and investigated. For example, after developing the Coach-Athlete Relationship Questionnaire (CART-Q; Jowett & Ntoumanis, 2004), Yang and Jowett (2012) examined the psychometric properties of this measure in Britain, China, Greece, Spain, Sweden, and the United States of America. Since the OSI-SP only assesses the organizational stressors encountered by sport performers, future measures could be developed and validated that assess the competitive and personal stressors that a sport performer encounters, as well as the organizational stressors encountered by other personnel within competitive sport, such as coaches (cf. Fletcher & Scott, 2010), sport psychologists (cf. Fletcher et al., 2011), and parents (cf. Harwood & Knight, 2009). An additional future research suggestion involves validating the OSI-SP at different time points during a sport performer's involvement in competitive sport, such as before and after competition, and also at the start, middle, and end of a competitive season. These temporal examinations could be incorporated into the much needed design of an organizational stress management intervention. Further suggestions regarding the design, delivery, and evaluation of stress-management interventions are provided in Sections 2.144 and 7.22 of this thesis.

As acknowledged in Section 2.21, researchers should ultimately strive to develop a comprehensive assessment of the overall stress phenomenon, including stressors, appraisals, responses, coping, and outcomes. However, in recognition of the consequences and challenging nature of this quest (cf. Cooper et al., 2001; Lazarus, 1990), it was instead decided to develop a measure to assess the stressors encountered by sport performers, before progressing to other facets of the stress process. Therefore, following the development and validation of a measure of organizational stressors in this programme of research, it is now suggested that researchers look to identify current measures or develop new measures of the subsequent components of the stress process that can be used in conjunction with the OSI-SP. Current measures of appraisal (Ferguson, Matthews, & Cox, 1999; Peacock & Wong, 1990), coping (Crocker & Graham, 1995; Gaudreau & Blondin, 2002; Kowalski & Crocker, 2001; Smith, Smoll, Schutz, & Ptacek, 1995), responses (Garnefski & Kaaaij, 2007; Jones et al., 2005), personal and situational characteristics (Connor & Davidson, 2003; Costa & McCrae, 1989; Freeman et al., 2011; Gucciardi, Gordon, & Dimmock, 2009; Jowett & Ntoumanis,

2004; Widmeyer et al., 1985), and outcomes (Diener et al., 1985; Riemer & Chelladurai, 1998; Watson et al., 1988) could be adopted, though would firstly need to be validated for use in the organizational stress in sport context. It may, however, be more appropriate for scholars to develop new measures of the further components of the stress process. If this is the case, researchers should firstly identify any psychometric issues that might be associated with the development and use of such measures (see Section 2.2).

7.243 Other Areas of the Stress Process

It is suggested that future research on organizational stress continues to test theoretical propositions proposed by the meta-model (see Section 2.14; see also Fletcher et al., 2006) and other theories in the area. Specifically, through use of the OSI-SP and the subsequent measures suggested in the previous section, it is recommended that researchers further investigate the relationships between stressors, appraisal, coping, emotions, and outcomes. When investigating these relationships in the stress process, the transactional nature of stress should be emphasised by exploring the on-going interplay amongst stress-related constructs and the possibility of multidirectional causality, rather than operationalizing the components as static entities (cf. Cooper et al., 2001; Fletcher et al., 2006).

In relation to outcomes in the meta-model, the stress and performance relationship should be further examined, so that evidence-based recommendations on how to enhance performance can be filtrated into applied sport psychology. It would also be useful to further investigate mediating and moderating variables within the stress process, with specific reference to the underlying mechanisms by which such variables operate. For example, when examining the underlying mechanisms through which social support buffers the detrimental relationships between stressors and psychological responses, Rees, Mitchell, Evans, and Hardy (2011) suggest that:

> Social support may help to redefine the threat posed by a stressor, alter an individual's perceptions of his/her available resources to cope, or lead an individual to feel more in control, which could all prevent a stressor from being appraised as highly stressful. Once stress is experienced, however, social support may reduce or alter the affective reaction, physiological response, or behavioural response to the stressful event, decrease the perceived importance of the problem, lead to improved coping, or provide a distraction from, or a solution to, the problem. (p. 506)

A further suggestion for future research is that it should strive to become more innovative and proactive by identifying and examining stress management systems and processes that may yield positive benefits for individuals and their organizations, rather than discussing stressors and outcomes after they have occurred (cf. Cooper et al., 2001; Dewe et al., 2010). This approach can help to prevent stressors (that create dysfunctional experiences) from occurring in the first instance. Once identified, these stress management prevention systems should then be integrated into a sports organization, perhaps in collaboration with secondary and tertiary stress management interventions to address those stressors that are unavoidable (see Section 2.144), in order to, together, achieve long-term and sustained positive outcomes (Dewe et al., 2010).

7.3 CONCLUSION

To conclude, organizational stressors are prevalent within competitive sport and can create a number of undesirable consequences for sport performers who encounter them if they are not sufficiently addressed. Therefore, to provide sport psychology practitioners with evidence-based research that they can use to help sport performers negate these consequences, the purpose of this thesis was to assess and examine the organizational stressors that sport performers encounter. To achieve this purpose, a series of seven related studies were conducted that aimed to: synthesise the research that had identified the organizational stressors encountered by sport performers, develop and validate a measure of organizational stressors for usage in the competitive sport context, examine if the frequency, intensity, and duration of organizational stressors encountered varied as a function of individual demographic differences, and investigate the moderating effects of coping on the relationship between organizational stressors and outcomes at different stages of the stress process. The results illustrate that a number of organizational stressors are present within competitive sport and are encountered by a diversity of sport performers. The results also highlighted that, as a construct, organizational stressors are multifactorial and can be measured in a reliable and valid way by The Organizational Stressor Indicator for Sport Performers (OSI-SP) developed in this programme of research. This indicator has five subscales: Goals and Development, Logistics and Operations, Team and Culture, Coaching, and Selection. The findings of the thesis illustrate that the presence and dimensions of these subscales of organizational stressors vary as a function of a sport performer’s individual demographic differences (e.g., gender, sport type, performance level). In addition, it was

found that a sport performer's coping style can moderate the effect of these organizational stressors on outcomes at different stages of the stress process.

Gill and Williams (2008) indicate that the aim of sport psychology is to facilitate and enhance athletic performance by scientifically studying people and their behaviours and then applying that knowledge. The studies reported in this thesis have helped to progress towards this goal in relation to developing a better understanding of the stress process in sport; this is because practitioners can incorporate the OSI-SP and the scientific findings into their applied practice to address organizational stressors and, in doing so, enhance an individual's performances and experiences in competitive sport. Finally, it is likely that new organizational stressors will emerge as sport organizations evolve in the future; therefore, it is suggested that researchers in this area strive to remain ahead of the unfolding phenomenon in sport performers' lives that is organizational stress.

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APPENDICES

APPENDIX ONE
EXAMPLE EXPERT PANEL LETTER AND PACK (STUDY TWO)

14th December 2010

Dear [Expert Panel Member],

We have recently developed a measure and would be grateful if you could be in the expert panel that helps us to validate it. The measure is titled the "Organizational Stressor Indicator for Sport Performers" (OSI-SP) and it explores the intensity, frequency, and duration of pressures that sport performers have experienced in the last month. For the purpose of the OSI-SP we have defined pressure as:

Those events, situations, or conditions that place a demand on you

Section A of this document asks for your background information.

Section B of this document provides you with some sample parts of the OSI-SP, and asks you about the relevance, clarity, and specificity of each question. It also gives you the opportunity to suggest modifications to the questions, or provide any further comments regarding your responses.

Section C of this document asks you about the format, layout, and presentation of the OSI-SP.

If you are happy to help, please complete and return this document by **Monday 10th January 2011.** If you would prefer this document in paper format with an enclosed stamped addressed envelope, please let us know on the below contact details. Once again, thank you for your help.

Kind regards,

Rachel S. Arnold and David Fletcher

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EXPERT PANEL VALIDATION

SECTION A

Please complete the questions that are applicable to you

Name: _____ Age: _____ years _____ months

Gender: Male Female Nationality: _____

Sporting Background

Length of time competing in sport: _____ years _____ months

Main sport competed in: _____

Highest performance level (circle one):

International Senior national Collegiate/ University

State/Regional Junior national County Club

Other _____

Academic and Sport Psychology Background

Current Job Title: _____

Current Employer: _____

Length of time working in academia: _____ years _____ months

Highest qualification (circle one):

GCSE A-Level BSc MSc

MPhil PhD

Approximate number of publications in international peer reviewed journals: ___

Length of time providing sport psychology support: _____ years _____ months

Name of sport psychology accreditation: _____

Main sports that work with: _____

_____

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EXPERT PANEL VALIDATION

SECTION B

Part A of the OSI-SP identifies which categories of pressures individuals have experienced over the last month and the intensity, frequency, and duration of each. Below we have presented a sample of questions from Part A. Please rate the suitability of each question by marking yes, no, or unsure in the relevant, clear, and specific columns. Note that in Part A of the OSI-SP the questions need to be general enough to capture all the pressures that sport performers experience and the questions in Part B focus on the specific stressors. If you have any ideas of how the questions can be improved, please detail these in the comments box (below each question).

Part A		RELEVANT			CLEAR			SPECIFICITY		
In the past month, I have experienced pressure relating to…		Does this question potentially relate to the sport organization environment?			Is this question easily understood?			Is this question general enough to capture all the related pressures in this area?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
1	…my coach and his/her coaching style									
Q1 Comments:										
2	…the expectations that others have of my performance									
Q2 Comments:										
3	…the management and support staff that are associated with my team									
Q3 Comments:										
4	…the sports officials that I have come into contact with									
Q4 Comments:										
5	…the spectators that watch me perform or the general public that recognise me									
Q5 Comments:										

EXPERT PANEL VALIDATION

SECTION B CONTINUED

Once respondents have completed the whole of Part A on the OSI-SP, they will be required to add up their intensity, frequency, and duration scores for each pressure individually that they have encountered. They will then identify their five highest scores from the total column. In Part B of the OSI-SP, individuals will only complete the questions underneath each of their highest score question numbers (that were identified in Part A).

For the purposes of this validation, we have assumed that your five highest score question numbers were the same five that you validated in Section A. Therefore, below you will see Part B for each of these question numbers. Please use the scales to rate the suitability of each question by marking yes, no, or unsure in the relevant, clear, and specific columns. If you have any ideas of how the questions can be improved, please detail these in the comments box (below each question).

Part B		**RELEVANT**			**CLEAR**			**SPECIFICITY**		
…my coach and his/her coaching style		**Does this question reflect the pressures relating to my coach and his/her coaching style?**			**Is this question easily understood?**			**Is this question specific enough?**		
		Yes	**No**	**Unsure**	**Yes**	**No**	**Unsure**	**Yes**	**No**	**Unsure**
1.1	My coach criticises me									
Q1.1 Comments:										
1.2	My coach has an aggressive coaching style									
Q1.2 Comments:										
1.3	My coach displays anxious behaviours									
Q1.3 Comments:										
1.4	My coach has an autocratic coaching style									

Part B		RELEVANT			CLEAR			SPECIFICITY		
…my coach and his/her coaching style		Does this question reflect the pressures relating to my coach and his/her coaching style?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Q1.4 Comments:										
1.5	My coach acts in an irresponsible way									
Q1.5 Comments:										
1.6	I am unable to train with my desired coach									
Q1.6 Comments:										
1.7	My coach acts differently in the international arena									
Q1.7 Comments:										
1.8	My coach has to have the final word									
Q1.8 Comments:										
1.9	My coach is absent from training or competition									
Q1.9 Comments:										
1.10	My coach is difficult to approach									
Q1.10 Comments:										
1.11	My coach has no credibility with athletes									
Q1.11 Comments:										
1.12	My coach lacks empathy									

Part B		RELEVANT			CLEAR			SPECIFICITY		
…my coach and his/her coaching style		Does this question reflect the pressures relating to my coach and his/her coaching style?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Q1.12 Comments:										
1.13	My coach does not command any respect									
Q1.13 Comments:										
1.14	My coach lacks technical or tactical knowledge									
Q1.14 Comments:										
1.15	My coach doesn't fulfil their role									
Q1.15 Comments:										
1.16	My coach does not push me very hard									
Q1.16 Comments:										
1.17	My coach pushes me too hard									
Q1.17 Comments:										
1.18	My coach does not understand me									
Q1.18 Comments:										
1.19	My coach treats athletes differently									
Q1.19 Comments:										
1.20	My coach focuses on the team over individuals									

Part B		RELEVANT			CLEAR			SPECIFICITY		
…my coach and his/her coaching style		Does this question reflect the pressures relating to my coach and his/her coaching style?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Q1.20 Comments:										
1.21	My coach is incompetent									
Q1.21 Comments:										
1.22	My coach is a poor communicator									
Q1.22 Comments:										
1.23	My coach has a conservative leadership style									
Q1.23 Comments:										
1.24	My coach is too domineering									
Q1.24 Comments:										
1.25	My coach has an incompatible coaching style to me									
Q1.25 Comments:										
1.26	My coach has an inconsistent coaching style									
Q1.26 Comments:										
1.27	My coach is indecisive									
Q1.27 Comments:										
1.28	My coach is manipulative									
Q1.28 Comments:										

Part B		RELEVANT			CLEAR			SPECIFICITY		
…my coach and his/her coaching style		Does this question reflect the pressures relating to my coach and his/her coaching style?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
1.29	My coach is negative									
Q1.29 Comments:										
1.30	My coach has a non-supportive coaching attitude									
Q1.30 Comments:										
1.31	I cannot trust my coach									
Q1.31 Comments:										

Part B		RELEVANT			CLEAR			SPECIFICITY		
…the expectations that others have of my performance		Does this question reflect the pressures relating to the expectations that others have of my performance?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
2.1	My coach has expectations of me									
Q2.1 Comments:										
2.2	My coach has an unrealistic expectation of me									
Q2.2 Comments:										
2.3	I am under constant expectations to achieve									
Q2.3 Comments:										

Part B		RELEVANT			CLEAR			SPECIFICITY		
…the expectations that others have of my performance		Does this question reflect the pressures relating to the expectations that others have of my performance?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
2.4	My family have expectations of me									
Q2.4 Comments:										
2.5	The national selectors have expectations of me									
Q2.5 Comments:										
2.6	Others have expectations of me based on my previous performances									
Q2.6 Comments:										
2.7	I fail to meet my coach's expectations									
Q2.7 Comments:										
2.8	I fail to meet my family's expectations									
Q2.8 Comments:										
2.9	I am expected to attain a lot in a short space of time									
Q2.9 Comments:										
2.10	My manager has expectations of me									
Q2.10 Comments:										
2.11	The nation has expectations of me									
Q2.11 Comments:										

Part B		RELEVANT			CLEAR			SPECIFICITY		
…the expectations that others have of my performance		Does this question reflect the pressures relating to the expectations that others have of my performance?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
2.12	I am expected to attain someone else's standards									
Q2.12 Comments:										
2.13	Others have expectations of me to improve									
Q2.13 Comments:										
2.14	I am unable to live up to my potential									
Q2.14 Comments:										
2.15	I am expected to perform up to my partner/teammate's quality									
Q2.15 Comments:										
2.16	The seniors in my team have high expectations of me									
Q2.16 Comments:										

Part B		RELEVANT			CLEAR			SPECIFICITY		
… the management and support staff that are associated with my team		Does this question reflect the pressures relating to the management and support staff that are associated with my team?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
3.1	The director of my sport is achievement oriented									

Part B		RELEVANT			CLEAR			SPECIFICITY		
… the management and support staff that are associated with my team		Does this question reflect the pressures relating to the management and support staff that are associated with my team?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Q3.1 Comments:										
3.2	My support staff are arrogant									
Q3.2 Comments:										
3.3	I am more knowledgeable about my sport than the support staff are									
Q3.3 Comments:										
3.4	My support staff lack knowledge of the sport									
Q3.4 Comments:										
3.5	My support staff communicate incompatible messages									
Q3.5 Comments:										
3.6	The director of my sport demands perfectionism									
Q3.6 Comments:										
3.7	I get more support than I actually want									
Q3.7 Comments:										
3.8	I receive inadequate support from staff									
Q3.8 Comments:										

Part B		RELEVANT			CLEAR			SPECIFICITY		
… the management and support staff that are associated with my team		Does this question reflect the pressures relating to the management and support staff that are associated with my team?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
3.9	I receive inappropriate support from staff									
Q3.9 Comments:										
3.10	The director of my sport is incompetent									
Q3.10 Comments:										
3.11	The director of my sport is inconsiderate									
Q3.11 Comments:										
3.12	I do not trust the support staff within my sport									
Q3.12 Comments:										
3.13	The staff in my sport become over-involved									
Q3.13 Comments:										
3.14	My relationship with the staff in my sport is not clear									
Q3.14 Comments:										
3.15	The staff in my sport neglect the feelings of performers									
Q3.15 Comments:										
3.16	There is tension amongst the staff in my sport									

Part B		RELEVANT			CLEAR			SPECIFICITY		
… the management and support staff that are associated with my team		Does this question reflect the pressures relating to the management and support staff that are associated with my team?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Q3.16 Comments:										
3.17	The director of my sport in unapproachable									
Q3.17 Comments:										
3.18	My manager is unapproachable									
Q3.18 Comments:										
3.19	I receive unfair treatment from the staff in my sport									
Q3.19 Comments:										

Part B		RELEVANT			CLEAR			SPECIFICITY		
…the sports officials that I have come into come into contact with		Does this question reflect the pressures relating to the sports officials that I have come into contact with?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
4.1	The officials in my sport make bad calls									
Q4.1 Comments:										
4.2	The officials in my sport display biased judging									
Q4.2 Comments:										

Part B		RELEVANT			CLEAR			SPECIFICITY		
…the sports officials that I have come into come into contact with		Does this question reflect the pressures relating to the sports officials that I have come into contact with?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
4.3	I receive criticism from judges and officials									
Q4.3 Comments:										
4.4	The officials in my sport provide inappropriate support									
Q4.4 Comments:										
4.5	The officials in my sport are incompetent									
Q4.5 Comments:										
4.6	The officials in my sport are dishonest									
Q4.6 Comments:										
4.7	The officials in my sport are unfair									
Q4.7 Comments:										
4.8	The officials in my sport do not fulfil their role									
Q4.8 Comments:										
4.9	The officials in my sport display negative behaviours									
Q4.9 Comments:										

Part B		RELEVANT			CLEAR			SPECIFICITY		
…the spectators that watch me perform or the general public that recognise me		Does this question reflect the pressures relating to the spectators that watch me perform or the general public that recognise me?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
5.1	I have to be pleasant to the supporters									
Q5.1 Comments:										
5.2	People I know are in the crowd watching me									
Q5.2 Comments:										
5.3	I am in the public eye									
Q5.3 Comments:										
5.4	I hear cheers for opponent players or teams									
Q5.4 Comments:										
5.5	I am under constant public scrutiny									
Q5.5 Comments:										
5.6	I receive criticism from supporters									
Q5.6 Comments:										
5.7	The supporters that watch me are abusive									
Q5.7 Comments:										
5.8	I am hassled by spectators									

Part B		RELEVANT			CLEAR			SPECIFICITY		
…the spectators that watch me perform or the general public that recognise me		Does this question reflect the pressures relating to the spectators that watch me perform or the general public that recognise me?			Is this question easily understood?			Is this question specific enough?		
		Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Q5.8 Comments:										
5.9	A large crowd watch me perform									
Q5.9 Comments:										
5.10	Someone important has come to watch me perform									
Q5.10 Comments:										
5.11	The supporters are noisy									
Q5.11 Comments:										
5.12	People in the crowd try to get my attention									
Q5.12 Comments:										
5.13	A small crowd watch me perform									
Q5.13 Comments:										

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EXPERT PANEL VALIDATION

SECTION C

This section presents the proposed format of the OSI-SP and the response scales used. It only includes the instructions and a sample of questions from Part A of the indicator. Following this, there are some questions regarding your general impression of the OSI-SP format and response scales and whether you feel that any changes are required.

Instructions

Each of the following questions describes pressures that you may have experienced over the past month. Pressure refers to:

Those events, situations, or conditions that place a demand on you.

For each question, indicate in the "Presence" column which pressures you have experienced over the past month. For those pressures that you have experienced, specify how demanding this pressure was/is for you ("Intensity" column), how often this pressure did/does occur ("Frequency" column), and how long this pressure did/does typically last ("Duration" column) by placing the appropriate number in each of the three columns.

Part A		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
In the past month, I have experienced pressure relating to…				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
1	…my coach and his/her coaching style																								

Part A		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
In the past month, I have experienced pressure relating to…				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
2	…the expectations that others have of my performance																								
3	…the management and support staff that are associated with my team																								
4	…the sports officials that I have come into contact with																								
5	…the spectators that watch me perform or the general public that recognise me																								

General Impressions

1. **Are the instructions preceding Part A of the OSI-SP (see previous page) easy to follow? Is there anything else that we need to include?**

2. **Is Part A of the OSI-SP presented and formatted appropriately?**

3. Are the intensity, frequency, and duration scales appropriate for your responses? Are there enough different response options for you to answer the questions?
4. Is there anything you would add to the OSI-SP to improve it?
5. Is there anything you would delete on the OSI-SP to improve it?
6. Do you have any further comments on the OSI-SP?

APPENDIX TWO
EXAMPLE USABILITY PANEL LETTER AND PACK (STUDY TWO)

15th December 2010

Dear [Usability Panel Member],

We have recently developed a measure and would be grateful if you could be in the expert panel that helps us to validate it. The measure is titled the "Organizational Stressor Indicator for Sport Performers" (OSI-SP) and it explores the intensity, frequency, and duration of pressures that sport performers have experienced in the last month. For the purpose of the OSI-SP we have defined pressure as:

Those events, situations, or conditions that place a demand on you

Section A of this document asks for your background information.

Section B of this document presents the OSI-SP, and we ask that you follow the instructions and complete the instrument.

Section C of this document asks you some questions about the OSI-SP and how it could be improved.

If you are happy to help, please complete and return this document by **Monday 10th January 2011.** If you would prefer this document in paper format with an enclosed stamped addressed envelope, please let us know on the below contact details. Once again, thank you for your help.

Kind regards,

Rachel S. Arnold and David Fletcher

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USABILITY PANEL VALIDATION

SECTION A

Please complete the questions that are applicable to you

Name: _____ Age: _____ years _____ months

Gender: Male Female Nationality: _____

Sporting Background

Length of time competing in sport: _____ years _____ months

Main sport competed in: _____

Highest performance level (circle one):

International Senior national Collegiate/ University

State/Regional Junior national County Club

Other _____

USABILITY PANEL VALIDATION- SECTION B

Each of the following questions describes pressures that you may have experienced over the past month. Pressure refers to:

Those events, situations, or conditions that place a demand on you.

For each question, indicate in the "Presence" column which pressures you have experienced over the past month. For those pressures that you have experienced, specify how demanding this pressure was/is for you ("Intensity" column), how often this pressure did/does occur ("Frequency" column), and how long this pressure did/does typically last ("Duration" column) by placing the appropriate number in each of the three columns.

Part A		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
In the past month, I have experienced pressure relating to…				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
1	…my coach and his/her coaching style																								
2	…the expectations that others have of my performance																								
3	…the management and support staff that are associated with my team																								
4	…the sports officials that I have come into contact with																								
5	…the spectators that watch me perform or the general public that recognise me																								
6	…the media																								

Part A Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
In the past month, I have experienced pressure relating to…				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
7	…the feedback that I receive from others in my team regarding my performance																								
8	…the relationship that I have with my coach(es)																								
9	…the governing body of my sport																								
10	…my interactions with teammates																								
11	…the communication within the team																								
12	…the atmosphere and support I receive																								
13	…mine or others' roles in the team																								
14	…the cultural norms and reputation of my team, club, or sport																								
15	…mine or others' goals in the team																								
16	…interactions with the opposition																								
17	…the facilities and equipment used for training or competition																								

Part A Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
In the past month, I have experienced pressure relating to…				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
18	…selection of the team for competition																								
19	…the competition format																								
20	…the structure of training																								
21	…the weather or environmental risks during training or competition																								
22	…travelling to and from training and competition																								
23	…the accommodation for training or competition																								
24	…the rules and regulations associated with my sport																								
25	…the distractions I encounter when training or competing																								
26	…my individual and team-mates' safety when training or competing																								
27	…the technology associated with my performances																								

Part A Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
In the past month, I have experienced pressure relating to…				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
28	…injuries or illnesses																								
29	…my funding or contracts																								
30	…my diet or hydration																								
31	…the security of my position on the team or the career transitions that I experience																								

For those pressures that you have experienced, add together your intensity, frequency, and duration scores for each pressure individually, and record it in the "Total" column (see the last column on the right hand side of the page). For example:

1	…my coach and his/her coaching style		X					5								8								8	21

Once you have done this, identify your five highest scores in the "Total" column and write the question number (see the first column on the left hand side of the page) of these pressures in the boxes below:

Ranking:

Highest total score question number:	
Second highest total score question number:	
Third highest total score question number:	
Fourth highest total score question number:	
Fifth highest total score question number:	

(If you have pressures with the same total score that fall into your rank of 1-4, choose which is the most significant pressure for you and record this question number before the other question number. If you have equal total scores for the fifth rank, choose which is the most significant pressure for you and record that one in the fifth rank position).

Locate below each of your five highest total score question numbers. Complete the questions underneath each of your five highest total score question numbers, indicating in the "Presence" column which pressures you have experienced over the last month.

For those pressures that you have experienced, specify how demanding this pressure was/is for you ("Intensity" column), how often this pressure did/does occur ("Frequency" column), and how long this pressure did/does typically last ("Duration" column) by placing the appropriate number in each of the three columns.

You *do not* need to fill in the total column for part B.

Part B		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
1…my coach and his/her coaching style																									
1.1	My coach criticises me																								
1.2	My coach has an aggressive coaching style																								
1.3	My coach displays anxious behaviours																								
1.4	My coach has an autocratic coaching style																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
1.5	My coach acts in an irresponsible way																								
1.6	I am unable to train with my desired coach																								
1.7	My coach acts differently in the international arena																								
1.8	My coach has to have the final word																								
1.9	My coach is absent from training or competition																								
1.10	My coach is difficult to approach																								
1.11	My coach has no credibility with athletes																								
1.12	My coach lacks empathy																								
1.13	My coach does not command any respect																								
1.14	My coach lacks technical or tactical knowledge																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
1.15	My coach doesn't fulfil their role																								
1.16	My coach does not push me very hard																								
1.17	My coach pushes me too hard																								
1.18	My coach does not understand me																								
1.19	My coach treats athletes differently																								
1.20	My coach focuses on the team over individuals																								
1.21	My coach is incompetent																								
1.22	My coach is a poor communicator																								
1.23	My coach has a conservative leadership style																								
1.24	My coach is too domineering																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
1.25	My coach has an incompatible coaching style to me																								
1.26	My coach has an inconsistent coaching style																								
1.27	My coach is indecisive																								
1.28	My coach is manipulative																								
1.29	My coach is negative																								
1.30	My coach has a non-supportive coaching attitude																								
1.31	I cannot trust my coach																								
2…the expectations that others have of my performance																									
2.1	My coach has expectations of me																								
2.2	My coach has an unrealistic expectation of me																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
2.3	I am under constant expectations to achieve																								
2.4	My family have expectations of me																								
2.5	The national selectors have expectations of me																								
2.6	Others have expectations of me based on my previous performances																								
2.7	I fail to meet my coach's expectations																								
2.8	I fail to meet my family's expectations																								
2.9	I am expected to attain a lot in a short space of time																								
2.10	My manager has expectations of me																								
2.11	The nation has expectations of me																								
2.12	I am expected to attain someone else's standards																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
2.13	Others have expectations of me to improve																								
2.14	I am unable to live up to my potential																								
2.15	I am expected to perform up to my partner/teammate's quality																								
2.16	The seniors in my team have high expectations of me																								
3…the management and support staff that are associated with my team																									
3.1	The director of my sport is achievement oriented																								
3.2	My support staff are arrogant																								
3.3	I am more knowledgeable about my sport than the support staff are																								
3.4	My support staff lack knowledge of the sport																								
3.5	My support staff communicate incompatible messages																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
3.6	The director of my sport demands perfectionism																								
3.7	I get more support than I actually want																								
3.8	I receive inadequate support from staff																								
3.9	I receive inappropriate support from staff																								
3.10	The director of my sport is incompetent																								
3.11	The director of my sport is inconsiderate																								
3.12	I do not trust the support staff within my sport																								
3.13	The staff in my sport become over-involved																								
3.14	My relationship with the staff in my sport is not clear																								
3.15	The staff in my sport neglect the feelings of performers																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
3.16	There is tension amongst the staff in my sport																								
3.17	The director of my sport in unapproachable																								
3.18	My manager is unapproachable																								
3.19	I receive unfair treatment from the staff in my sport																								
4…the sports officials that I have come into contact with																									
4.1	The officials in my sport make bad calls																								
4.2	The officials in my sport display biased judging																								
4.3	I receive criticism from judges and officials																								
4.4	The officials in my sport provide inappropriate support																								
4.5	The officials in my sport are incompetent																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
4.6	The officials in my sport are dishonest																								
4.7	The officials in my sport are unfair																								
4.8	The officials in my sport do not fulfil their role																								
4.9	The officials in my sport display negative behaviours																								
5…the spectators that watch me perform or the general public that recognise me																									
5.1	I have to be pleasant to the supporters																								
5.2	People I know are in the crowd watching me																								
5.3	I am in the public eye																								
5.4	I hear cheers for opponent players or teams																								
5.5	I am under constant public scrutiny																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
5.6	I receive criticism from supporters																								
5.7	The supporters that watch me are abusive																								
5.8	I am hassled by spectators																								
5.9	A large crowd watch me perform																								
5.10	Someone important has come to watch me perform																								
5.11	The supporters are noisy																								
5.12	People in the crowd try to get my attention																								
5.13	A small crowd watch me perform																								
6…the media																									
6.1	The media make critical comments about me																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
6.2	I have to deal with the media																								
6.3	The media places excessive time demands on me																								
6.4	I have to attend press conferences																								
6.5	I have to project the correct media image																								
6.6	I have a lack of media attention																								
6.7	The media make me look stupid																								
6.8	The media display negative behaviours																								
6.9	There is too much media exposure																								
6.10	There is publicity hype about me																								
6.11	The media generate rumours about my personal life																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
7…the feedback that I receive from others in my team regarding my performance																									
7.1	I get ignored if I play poorly																								
7.2	I am told what I want to hear																								
7.3	I receive negative feedback																								
7.4	I don’t receive enough feedback																								
7.5	There is a lack of guidance on how I should perform																								
7.6	I receive no recognition for my achievements																								
7.7	I do not receive enough praise																								
7.8	I do not know how I am rated as a performer																								
7.9	I do not know what I have to work on																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
7.10	I do not know what I have done wrong																								
8…the relationship that I have with my coach(es)																									
8.1	There is tension between myself and my coach																								
8.2	I encounter conflict with my coach																								
8.3	I have a poor relationship with my coach																								
8.4	My coach has a low opinion of me as a player																								
8.5	I argue with my coach																								
8.6	My coach doesn't listen to what I am saying																								
9…the governing body of my sport																									
9.1	The governing body of my sport abuse their power																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
9.2	The governing body of my sport change the format of competitions																								
9.3	The governing body of my sport do not control drugs tests very well																								
9.4	The governing body of my sport are unorganised																								
9.5	The governing body of my sport are too organised																								
9.6	The governing body of my sport do not listen to what members want																								
10…my interactions with team-mates																									
10.1	My teammate(s) tell me what I did wrong																								
10.2	There are some abrasive personalities in my team																								
10.3	I argue with my teammate(s)																								
10.4	I can't physically train with my teammate(s)																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
10.5	There is bad teamwork in my team																								
10.6	I have a bad working relationship with my teammate(s)																								
10.7	My teammate(s) criticise me																								
10.8	I am ignored by my teammate(s)																								
10.9	The captain of my team has weak leadership																								
10.10	I am unfamiliar with training as a team																								
10.11	There have been changes in my training group																								
10.12	I am competing in a new team																								
10.13	I have competitive teammate(s)																								
10.14	There is conflict between me and my teammate(s)																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
10.15	I have difficulty finding a training partner																								
10.16	I cannot trust my teammate(s)																								
10.17	My teammate(s) play psychological games with me																								
10.18	I have to train alone																								
10.19	My teammate(s) are incompetent																								
10.20	My teammate(s) focus on themselves rather than the team																								
10.21	I am intimidated by my teammate(s)																								
10.22	Some of the members of my team are not committed																								
10.23	My teammate(s) display negative behaviours																								
10.24	My captain does not give me praise																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
10.25	My teammate(s) do not pull their weight																								
10.26	There is a personality clash between me and my teammate(s)																								
10.27	There is rivalry amongst me and my teammate(s)																								
10.28	My teammate(s) act differently when they return from playing at a higher level																								
10.29	My teammate(s) are negative																								
10.30	My teammate(s) get annoyed with me																								
10.31	My teammate(s) have a lack of ambition																								
10.32	I do not interact with my teammate(s) socially																								
10.33	I am not accepted by my teammate(s)																								
10.34	My teammate(s) are weak																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
10.35	My teammate(s) do not value my contribution to the team																								
11…the communication within the team																									
11.1	I receive advice from too many people																								
11.2	I am told what I want to hear																								
11.3	There are communication restrictions between men and women on my team																								
11.4	There is negative communication on our team																								
11.5	There is poor communication between me and my teammate(s)																								
11.6	I have a lack of access to information																								
11.7	There is a lack of communication between coaches																								
11.8	There is a lack of communication between administrators																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
11.9	The communication between me and my coach is poor																								
11.10	The communication between me and my captain is poor																								
11.11	The communication between me and my support staff is poor																								
11.12	There is a lack of communication regarding financial issues																								
11.13	There is a lack of communication regarding the organization of training																								
11.14	My concerns are not listened to																								
11.15	There is poor communication from race/competition organizers																								
11.16	The judges/officials display poor communication																								
12…the atmosphere and support that I receive																									
12.1	Our team atmosphere is affected by my teammate(s) negative attitudes																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
12.2	I get alienated by my teammate(s)																								
12.3	There are cliques within my team																								
12.4	Players in our team compete against each other																								
12.5	There is a lack of social cohesion in our team																								
12.6	There is a general lack of support in our team																								
12.7	Our team atmosphere is intense																								
12.8	There is a lack of social systems within our team																								
12.9	I do not receive support when I am playing poorly																								
12.10	There is a lack of trust in our team																								
12.11	There is low team morale in our team																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
12.12	Our team atmosphere is negative																								
12.13	A new team member has affected our team atmosphere																								
12.14	My team-mates argue with each other																								
12.15	People in my team talk about me behind my back																								
12.16	There is a tense training atmosphere																								
12.17	There is tension in our team due to personal goals																								
12.18	There is tension between teammates in our team																								
13…mine or others' roles in the team																									
13.1	Part of my role is to be a senior player/athlete																								
13.2	I am the first player on the team to compete																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
13.3	I am obliged to help younger members in my team																								
13.4	I am the only professional in my squad/team																								
13.5	I am both the team captain and a performer																								
13.6	I have difficulties fulfilling multiple roles																								
13.7	I have to do things that are outside my role																								
13.8	I have to do things that I don't want to																								
13.9	There is a lack of role structure																								
13.10	I have too many roles to fulfil																								
13.11	I have too much responsibility in the team																								
13.12	There is a lack of awareness about others' roles in our team																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
13.13	I am not aware of what my own role entails																								
13.14	There is a lack of information to help me perform my role																								
14…the cultural norms and reputation of my team, club, or sport																									
14.1	There is an amateur mentality within my sport																								
14.2	Better players get preferential treatment in my team																								
14.3	I have to conform to my team's image																								
14.4	There are demanding off field obligations that I have to fulfil																								
14.5	There are politics within my sport																								
14.6	I have to accept as many internationals as possible																								
14.7	I am expected to conform to my team/club/sport's image																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
14.8	I have to represent my club at all times																								
14.9	The culture of my sport is incompatible to me																								
15…mine or others' goals in the team																									
15.1	There is a lack of direction in our team's goals																								
15.2	There is a lack of direction in my personal goals																								
15.3	There is a lack of clarity in our team's goals																								
15.4	There is a lack of clarity in my personal goals																								
15.5	There are differences between individual and team goals																								
15.6	There are differences between personal and organizational goals																								
15.7	I have not achieved my goals																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
15.8	My team have unrealistic goals																								
16…interactions with the opposition																									
16.1	My competitors display negative behaviours																								
16.2	I have to compete against people I don't like																								
16.3	My competitors play psychological games with me																								
16.4	My competitors' coaches play psychological games with me																								
16.5	I do not know my opponents very well																								
16.6	The opposition have an unfriendly attitude																								
16.7	I have to play against juniors																								
16.8	Rivals practise beside me																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
17…the facilities and equipment used for training or competition																									
17.1	I am responsible for my own equipment																								
17.2	The venue conditions are bad																								
17.3	The practice facilities are different to those at the competition																								
17.4	The facilities are different when training or competing away from home																								
17.5	My equipment has been changed																								
17.6	The facilities are too cold																								
17.7	We have to compete on artificial grounds																								
17.8	We have to compete on surfaces that I am not used to																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
17.9	The conditions of the playing surface are poor																								
17.10	The sports equipment that I use is dangerous																								
17.11	The sports equipment that I use is different to normal																								
17.12	There is no air conditioning at the facilities																								
17.13	The equipment has been set out by organizers in the wrong place																								
17.14	The equipment or kit has not been prepared																								
17.15	I have forgotten my equipment																								
17.16	The playing surfaces are hard																								
17.17	The temperature of the facilities is too hot																								
17.18	The competition facilities are inadequate																								
17.19	The lighting of the facilities is poor																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
17.20	The training facilities are inadequate																								
17.21	The changing rooms at the facilities are poor or non-existent																								
17.22	There are no showers at the facilities																								
17.23	The venue is too large																								
17.24	The venue is too small																								
17.25	There is a match/race on before mine																								
17.26	The venue is lacking equipment																								
17.27	There is no place to practice																								
17.28	The competition venue is old																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
17.29	The facilities have poor hygiene conditions																								
17.30	My equipment or kit has been sabotaged																								
17.31	The playing surface is uneven																								
18…selection of the team for competition																									
18.1	The selection process is ambiguous																								
18.2	I am a substitute or reserve																								
18.3	I am not selected																								
18.4	I am being played in a different position in the team																								
18.5	The selection trials occur too close to competition																								
18.6	The selection process is prolonged																								
18.7	I encounter false promises with regards to my selection																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
18.8	I am fighting for my place																								
18.9	I find out through the media that I have been dropped																								
18.10	I have to continually prove myself for selection																								
18.11	The selection process is inappropriate																								
18.12	The selectors are inappropriate																								
18.13	There is intense competition for places																								
18.14	There is a lack of selection opportunities																								
18.15	The selection is late																								
18.16	I have to keep looking over my shoulder																								
18.17	Too much importance is placed on the selection trials																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
18.18	The selection process is unfair																								
18.19	I am selected beyond my capabilities																								
18.20	I am uncertain about my selection																								
18.21	The selectors are watching me perform																								
18.22	I have a short time span to demonstrate my ability																								
18.23	Team mates are challenging for my position																								
18.24	The selection criteria are not clear																								
19…the competition format																									
19.1	The competition schedule has been changed																								
19.2	I am required to compete late at night																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
19.3	I am required to compete early in the morning																								
19.4	I am required to compete in multiple events																								
19.5	There is too little time between competitive events																								
19.6	I am competing in the wrong event																								
19.7	I have to compete on my own after competing as a team																								
19.8	The competition entries are decided by management																								
19.9	The competition schedule is too demanding																								
19.10	The season is congested																								
19.11	I have to decide how many events to compete in																								
19.12	There are delays in the competition schedule																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
19.13	There are different formats within the competition																								
19.14	I have to find an appropriate standard opposition																								
19.15	There is no atmosphere at the competition																								
19.16	The competition hours are inflexible																								
19.17	The competition is unorganised																								
19.18	Late changes are made to the competition schedule																								
19.19	The level of competition is too high																								
19.20	The level of competition is too low																								
19.21	The competition day is long																								
19.22	The competition has a new format																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
19.23	There is too much time between competitive events																								
20…the structure of training																									
20.1	I am unable to train with my teammates																								
20.2	The training situation has changed																								
20.3	There are differences between athletes in our training																								
20.4	We have excessive training																								
20.5	The training regime is inappropriate																								
20.6	The training times are inconsistent																								
20.7	The training hours are inconvenient																								
20.8	The training times are inflexible																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
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		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
20.9	There is insufficient time for recovery in our training regime																								
20.10	There is a lack of challenge during training sessions																								
20.11	There is not enough training																								
20.12	There is a lack of structured training during the off season																								
20.13	There is a lack of training variety																								
20.14	The training hours are long																								
20.15	Training is monotonous																								
20.16	Training is too formalised																								
20.17	There is too much training																								
20.18	I have limited input into my training regime																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
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		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
20.19	Training is poorly organised																								
20.20	I have to train full-time																								
20.21	I have a regimented lifestyle because of my training																								
20.22	The training environment is tense																								
20.23	Training is too taxing																								
20.24	There are unexpected changes to our training																								
20.25	The conditions of training are unpleasant																								
20.26	The training hours are unsociable																								
20.27	Training is un-enjoyable																								
21…the weather or environmental risks during training or competition																									

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
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		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
21.1	There is high humidity																								
21.2	It is cloudy																								
21.3	It is raining																								
21.4	It is windy																								
21.5	It is cold																								
21.6	The weather conditions are difficult																								
21.7	The weather is stormy																								
21.8	The temperatures are too hot																								
21.9	The temperatures are too cold																								
21.10	There is not enough wind																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
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		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
21.11	The weather is making my performance unsafe																								
21.12	There is a threat of hitting external objects																								
21.13	The weather conditions are uncomfortable																								
21.14	The weather conditions are unfamiliar																								
22…travelling to and from competition																									
22.1	I have arrived late																								
22.2	I have arrived early																								
22.3	My transport is delayed																								
22.4	The travel arrangements are made late																								
22.5	The travel arrangements are poorly planned																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
22.6	Travelling time is prolonged																								
22.7	There is traffic whilst travelling																								
22.8	I am required to travel a long distance																								
22.9	The travel environment is uncomfortable																								
22.10	My arrival time is unsatisfactory																								
23…the accommodation for training or competition																									
23.1	I have had to relocate where I live because of my sport																								
23.2	Relocation means I have to adjust to independent living																								
23.3	Relocation means I have to adapt to city life																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
23.4	I have disturbed sleep patterns																								
23.5	I have incompatible room mates																								
23.6	I have not had enough sleep																								
23.7	I have to live at an academy																								
23.8	The accommodation is too noisy																								
23.9	The accommodation is poorly organised																								
23.10	The accommodation is far away from the competition																								
24…the rules and regulations of my sport																									
24.1	I accidentally took a banned substance																								
24.2	I have been falsely accused of taking a banned substance																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
24.3	I have been blackmailed																								
24.4	I have encountered competition fixing																								
24.5	I have encountered a disciplinary tribunal																								
24.6	I have been made to sign contractual documents under distress																								
24.7	There are inconsistencies in the application of rules																								
24.8	My opponents have taken a banned substance																								
24.9	My team mates have taken a banned substance																								
24.10	There is a difference between international and domestic rules in my sport																								
24.11	There are unjustified restrictions on my behaviour																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
25…the distractions I encounter when training or competing																									
25.1	I face disruptions during competition																								
25.2	I face disruptions in my physical warm up																								
25.3	I face disruptions during my final mental preparations																								
25.4	I am distracted by an outside person when training or competing																								
25.5	I encounter an unexpected disruption during a major competition																								
26…my individual and team-mates' safety when training or competing																									
26.1	The facilities are dangerous																								
26.2	I have to perform dangerous performance routines																								
26.3	There is a lack of visible security																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
26.4	There are terrorist threats whilst I am training or competing																								
26.5	The competition venue is unsafe																								
27…the technology associated with my performances																									
27.1	My skills are becoming obsolete because of technology																								
27.2	Technology is becoming more important in my sport																								
27.3	I need to become familiar with new equipment																								
28…injuries or illnesses																									
28.1	My aspirations are terminated due to injury																								
28.2	There is ambiguity surrounding my injury severity																								
28.3	There is ambiguity surrounding my injury treatment																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
28.4	I am in a bad condition																								
28.5	My injury requires time to recover																								
28.6	I am ignored if I am injured																								
28.7	I am unable to train or compete due to injury																								
28.8	I have career concerns when injured																								
28.9	My place on the team is challenged due to injury																								
28.10	I have to return after my injury																								
28.11	I have to compete when injured																								
28.12	I have difficulties dealing with my injury																								
28.13	I am fatigued																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
28.14	I am depressed																								
28.15	I am in a sporting slump																								
28.16	I am not in a good physical shape																								
28.17	I am ill due to physical exhaustion																								
28.18	Our team atmosphere is affected when I or others get injured																								
28.19	There is a lack of social and medical support when I am injured																								
28.20	There is a lack of structure to my injury treatment																								
28.21	When I am injured I lose fitness																								
28.22	I do not want to be seen to be injured																								
28.23	My coach is not supportive when I am injured																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
28.24	My partner/team mate is injured																								
28.25	Others have recovery expectations of my injury																								
28.26	I rush to come back after being injured																								
28.27	Social comparisons are made when I am injured																								
28.28	I encounter sponsorship issues when injured																								
29…my funding or contracts																									
29.1	My agent makes deals behind my back																								
29.2	My contract has not been renewed																								
29.3	I have to negotiate my contract																								
29.4	There is differential financial support for myself and others																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
29.5	I have difficulty finding sponsorship																								
29.6	I have disagreements with others about sponsorship issues																								
29.7	I am a financial burden on my family																								
29.8	We gain financial rewards for the club if we win																								
29.9	Financial support is dependent on results																								
29.10	Funding is used as a power to control myself and others																								
29.11	I have a number of different sponsors																								
29.12	I have to deal with agents																								
29.13	I have to justify my finances																								
29.14	I have to pay for my own equipment																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
29.15	I have to pay for my own injury treatment																								
29.16	I have to pay for specialist support																								
29.17	I have to rely on others for financial support																								
29.18	I receive inadequate financial support																								
29.19	My funding has an influence on my livelihood																								
29.20	I have encountered loss of earnings or sponsorship																								
29.21	My mortgage is dependent on my contract being renewed																								
29.22	I am not able to afford performance enhancing items																								
29.23	I am not able to keep up with my wealthy peers																								
29.24	My pay is not commensurate with the sacrifices I make																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
29.25	There is financial favouritism amongst athletes																								
29.26	I am restricted in my equipment choices due to sponsorship																								
29.27	Sponsors break their promises to me																								
30…my diet or hydration																									
30.1	I am required to attain an optimal body weight																								
30.2	I am overweight																								
30.3	I am told I have to lose weight																								
30.4	My physique has changed																								
30.5	My coach has a different attitude to me regarding diet																								
30.6	My food is controlled																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
30.7	My eating is disordered																								
30.8	I do not like foreign food when we are competing in another country																								
30.9	There is a lot of importance placed on diet in my sport/team																								
30.10	There is a lack of food at competitions																								
30.11	There is a lack of healthy food at competitions																								
30.12	There is poor provision of food at competitions																								
30.13	I encounter upsets due to foreign cuisine																								
31…the security of my position on the team or the career transitions that I experience																									
31.1	I am of an amateur status																								
31.2	I encounter career uncertainty as a sport performer																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
31.3	I struggle to decide when to retire from my sport																								
31.4	I have to fight for my individuality																								
31.5	I have to fight for adult status in my sport																								
31.6	I encounter job insecurity as a sport performer																								
31.7	There are a lack of opportunities to compete at an elite level																								
31.8	There are a lack of opportunities to compete at a senior level																								
31.9	There is a lack of progress in my sport career																								
31.10	I have to make the transition from junior to senior competition																								
31.11	I have to make the transition from non elite to elite competition																								
31.12	Others doubt my ability as a sport performer																								

Part B Continued		PRESENCE		INTENSITY					FREQUENCY								DURATION								TOTAL
		Have you experienced this pressure?		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
				Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		No	Yes	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
31.13	I receive poor career advice																								
31.14	I am unable to compete at a desired level																								

If there are any pressures that you encounter within your five highest total score question numbers which have not been captured in Part B, then please list these below.

For those pressures that you have listed below, specify how demanding this pressure was/is for you ("Intensity" column), how often this pressure did/does occur ("Frequency" column), and how long this pressure did/does typically last ("Duration" column) by placing the appropriate number in each of the three columns.

You *do not* need to fill in the "Total" column for Part C.

Part C		INTENSITY					FREQUENCY								DURATION								TOTAL
		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
		Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
1st highest total score question number _____																							
1																							
2																							
3																							
4																							
5																							

Part C Continued		INTENSITY					FREQUENCY								DURATION								TOTAL
		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
		Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
2nd highest total score question number_____																							
1																							
2																							
3																							
4																							
5																							

Part C Continued		INTENSITY					FREQUENCY								DURATION								TOTAL
		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
		Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
3rd highest total score question number _____																							
1																							
2																							
3																							
4																							
5																							

Part C Continued		INTENSITY					FREQUENCY								DURATION								TOTAL
		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
		Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
4th highest total score question number _____																							
1																							
2																							
3																							
4																							
5																							

Part C Continued		INTENSITY					FREQUENCY								DURATION								TOTAL
		How demanding was/is this pressure?					How often did/does this pressure occur?								How long did/does this pressure typically last?								
		Very low	Low	Moderate	High	Very high	Hourly	Twice daily	Daily	Weekly	Fortnightly	Monthly	Annually	Quadrennialy	Seconds	Minutes	Hours	Days	Weeks	Months	Years	Decades	
		1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
5th highest total score question number _____																							
1																							
2																							
3																							
4																							
5																							

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EXPERT PANEL VALIDATION

SECTION C

Please answer the below questions in an honest and open way. Any feedback or suggestions that you can provide us with will help us to improve the OSI-SP.

General Impressions

1. Approximately how long did the OSI-SP take you to complete?

2. Is the OSI-SP pitched at a level which is appropriate for sport performers of all ages?

3. Does the OSI-SP flow well? Can the flow be improved?

4. How is the order of the questions?

5. Did you feel uncomfortable answering any of the questions? If so, which questions?

6. Were the instructions at the start of Part A easy to follow? If no, how could they be made clearer?

7. Were the scoring instructions at the end of Part A easy to follow? If no, how could they be made clearer?

8. Were the instructions at the start of Part B easy to follow? If no, how could they be made clearer?

9. Were the instructions at the start of Part C easy to follow? If no, how could they be made clearer?

10. Was the intensity response scale appropriate for your responses? If not, how could it be improved?

11. Was the frequency response scale appropriate for your responses? If not, how could it be improved?

12. Was the duration response scale appropriate for your responses? If not, how could it be improved?

13. How is the format and presentation of the OSI-SP?

14. Would you make any modifications to the OSI-SP?

15. Would you delete anything on the OSI-SP?

16. Would you add anything to the OSI-SP?

Thank you for your time.

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APPENDIX THREE
96-ITEM OSI-SP (STUDY THREE)

ORGANIZATIONAL STRESSOR INDICATOR FOR SPORT PERFORMERS ©

This indicator explores the pressures that sport performers have experienced as part of their participation in competitive sport in the past month. The questions contained within it will take about twenty minutes to respond to.

Sometimes sport performers feel they should not admit to any pressures that they experience because these demands have the potential to have powerful effects on them and their performance. Actually, these pressures are quite common and a normal part of participation in competitive sport. To help us understand them we want you to share your experiences with us in an open and honest way. With this in mind, please remember that there are no right or wrong answers to the questions because every sport performer is different and their environments are often changing.

Any personally identifiable information that you provide us with will remain confidential. Apart from the researchers, nobody will have access to any of your responses. Several questions use the word 'team'. This refers to any of the people in your sport organization, such as managers, coaches, teammates, and support staff. If you represent more than one team in your main sport, please refer to the team that you have competed most frequently for in the past month.

If you understand the nature and purpose of this indicator and you consent to complete it, please provide us with the following information before responding to the questions overleaf:

Today: _____ date _____ month _____ year

Name: _____ Age: _____ years _____ months

Gender (circle one): Male Female Nationality: _____

Current main sport: _____

Length of time competing in sport: _____ years _____ months

Current performance level (circle one):

International	**Senior national**	**Collegiate/ University**
State/Regional	**Junior national**	**County**
Club	**Other _____**	

Each of the following questions describes pressures that you may have experienced as part of your participation in competitive sport in the past month. Pressure is:

Those events, situations, or conditions that place a demand on you

For each question, place a tick in each of the three columns to indicate:

- **how often this pressure placed a demand on you ("Frequency" column),**
- **how demanding this pressure was for you ("Intensity" column), and**
- **how long this pressure placed a demand on you for ("Duration" column)**

	In the past month, I have experienced pressure associated with…	**FREQUENCY**						**INTENSITY**						**DURATION**					
		How often did this pressure place a demand on you?						**How demanding was this pressure?**						**How long did this pressure place a demand on you for?**					
		Never	**Rarely**	**Sometimes**	**Often**	**Very often**	**Always**	**No demand**	**Very low**	**Low**	**Moderate**	**High**	**Very high**	**No time**	**A very short time**	**A short time**	**A medium amount of time**	**A long time**	**A very long time**
		0	**1**	**2**	**3**	**4**	**5**	**0**	**1**	**2**	**3**	**4**	**5**	**0**	**1**	**2**	**3**	**4**	**5**
1	…the opportunities that I have in my sporting career																		
2	…the way that my teammates behave																		
3	…selection of my team for competition																		
4	…the facilities used for training or competition																		
5	…the way my sport is run																		
6	…the spectators that watch me perform																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
7	…the expectations within my team																		
8	…the risk of physical injury whilst training or competing																		
9	…where I have to stay for training or competitions																		
10	…my teammates' personalities																		
11	…interruptions to training or competitions																		
12	…the format of competitions																		
13	…new technology being introduced to my sport																		
14	…my travel arrangements for training or competitions																		
15	…the way that training sessions are structured																		
16	…others' beliefs of what I can achieve																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
17	…the media's portrayal of me and my performance																		
18	…my attention being drawn away from training or competition																		
19	…being in danger while I am training or competing																		
20	…those individuals that are responsible for enforcing the rules in my sport																		
21	…my performance being evaluated by others in my team																		
22	…the roles that are assigned to me on my team																		
23	…my team's communication channels																		
24	…the culture in my team																		
25	…being watched by people when I am performing																		
26	…those individuals responsible for making and enforcing policies in my sport																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
27	…the regulations in my sport																		
28	…recovery from injury																		
29	…the development of my sporting career																		
30	…the technology used in my sport																		
31	…the distractions that I experience when training or competing																		
32	…my diet																		
33	…travelling to or from training or competitions																		
34	…the way that the opposition behave																		
35	…spectators' behaviour during the competition																		
36	…the format of training																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
37	…the equipment provided for training or competition																		
38	…cliques within my team																		
39	…the communication within my team																		
40	…the support I receive from staff that are employed to help me improve my performance																		
41	…others' expectations of my performance																		
42	…my vision of where I want to get to in my sport																		
43	…the way that information is conveyed in my team																		
44	…the cohesion of my team																		
45	…the organization that governs and controls my sport																		
46	…the organization of the competitions that I perform in																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
47	…my goals																		
48	…my training schedule																		
49	…the support staff that are linked to my team																		
50	…injuries																		
51	…my coach's values																		
52	…the food that I eat																		
53	…the way that my coach behaves with me																		
54	…the atmosphere surrounding my team																		
55	…the transport that I use for training or competitions																		
56	…my sport being controlled by rules and regulations																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
57	…my housing for training or competitions																		
58	…the officiating during competition																		
59	…the financial support that I get for my sport																		
60	…how my team is selected																		
61	…the feedback that I receive about my performance																		
62	…the treatment that I receive from my support staff																		
63	…my relationship with the opposition																		
64	…what we aspire to achieve as a team																		
65	…the training or competition venue																		
66	…my physical safety when training or competing																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
67	…my role within the team																		
68	…the relationship between my coach and I																		
69	…the accommodation used for training or competitions																		
70	…my coach's personality																		
71	…my teammates' attitudes																		
72	…my coach's attitude																		
73	…the shared beliefs of my teammates																		
74	…the comments that others in my team make about my performances																		
75	…what gets said or written about me in the media																		
76	…the financial contracts that I have for my sport																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
77	…the interactions that I have with my teammates																		
78	…my schedule at competitions																		
79	…the level of security while I am training or competing																		
80	…the selection process for my team																		
81	…the climate that I have to train or compete in																		
82	…my teammates' opinions																		
83	…the weather during training or competitions																		
84	…the relationship between my teammates and I																		
85	…the responsibilities that I have on my team																		
86	…the interactions that I have with the opposition																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
87	…the provision of food that I receive																		
88	…the temperature while I am training or competing																		
89	…the interactions that I have with my coach																		
90	…being expected to perform to others' standards																		
91	…the rules of my sport																		
92	…the sports officials that I have come into contact with																		
93	…the funding allocations in my sport																		
94	…changes in my sporting career																		
95	…the role that technology plays in my sport																		
96	…the media																		

Sport Emotion Questionnaire

Below you will find a list of words that describe a range of feelings that sport performers may experience. Please read each one carefully and indicate on the scale next to each item how your participation in competitive sport *in the past month* has made you feel. There are no right or wrong answers. Do not spend too much time on any one item.

	Not at all	A little	Moderately	Quite a bit	Extremely
Uneasy	0	1	2	3	4
Upset	0	1	2	3	4
Exhilarated	0	1	2	3	4
Irritated	0	1	2	3	4
Pleased	0	1	2	3	4
Tense	0	1	2	3	4
Sad	0	1	2	3	4
Excited	0	1	2	3	4
Furious	0	1	2	3	4
Joyful	0	1	2	3	4
Nervous	0	1	2	3	4
Unhappy	0	1	2	3	4
Enthusiastic	0	1	2	3	4
Annoyed	0	1	2	3	4
Cheerful	0	1	2	3	4
Apprehensive	0	1	2	3	4
Disappointed	0	1	2	3	4
Energetic	0	1	2	3	4
Angry	0	1	2	3	4
Happy	0	1	2	3	4
Anxious	0	1	2	3	4
Dejected	0	1	2	3	4

Thank you for your time.

APPENDIX FOUR
33-ITEM OSI-SP PLUS EXTRA MEASURES FOR CONCURRENT VALIDITY (STUDIES FOUR AND FIVE)

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ORGANIZATIONAL STRESSOR INDICATOR FOR SPORT PERFORMERS ©

This indicator explores the pressures that sport performers have experienced as part of their participation in competitive sport in the past month. The questions contained within it will take about fifteen minutes to respond to.

Sometimes sport performers feel they should not admit to any pressures that they experience because these demands have the potential to have powerful effects on them and their performance. Actually, these pressures are quite common and a normal part of participation in competitive sport. To help us understand them we want you to share your experiences with us in an open and honest way. With this in mind, please remember that there are no right or wrong answers to the questions because every sport performer is different and their environments are often changing.

Any personally identifiable information that you provide us with will remain confidential. Apart from the researchers, nobody will have access to any of your responses. Several questions use the word 'team'. This refers to any of the people in your sport organization, such as managers, coaches, teammates, and support staff. If you represent more than one team in your main sport, please refer to the team that you have competed most frequently for in the past month.

If you understand the nature and purpose of this indicator and you consent to complete it, please provide us with the following information before responding to the questions overleaf:

Today: _____ date _____ month _____ year

Name: _____ Age: _____ years _____ months

Gender (circle one): Male Female Nationality: _____

Current main sport: _____

Length of time competing in sport: _____ years _____ months

Current performance status (circle one): Full-time Part-time

Current performance level (circle one):

International Senior national Collegiate/University

State/Regional Junior national County

Club Other _____

Each of the following questions describes pressures that you may have experienced as part of your participation in competitive sport in the past month. Pressure is:

Those events, situations, or conditions that place a demand on you

For each question, place a tick in each of the three columns to indicate:

- **how often this pressure placed a demand on you ("Frequency" column),**
- **how demanding this pressure was for you ("Intensity" column), and**
- **how long this pressure placed a demand on you for ("Duration" column)**

	In the past month, I have experienced pressure associated with…	**FREQUENCY**						**INTENSITY**						**DURATION**					
		How often did this pressure place a demand on you?						**How demanding was this pressure?**						**How long did this pressure place a demand on you for?**					
		Never	**Rarely**	**Sometimes**	**Often**	**Very often**	**Always**	**No demand**	**Very low**	**Low**	**Moderate**	**High**	**Very high**	**No time**	**A very short time**	**A short time**	**A medium amount of time**	**A long time**	**A very long time**
		0	**1**	**2**	**3**	**4**	**5**	**0**	**1**	**2**	**3**	**4**	**5**	**0**	**1**	**2**	**3**	**4**	**5**
1	…travelling to or from training or competitions																		
2	…others' expectations of my performance																		
3	…the organization of the competitions that I perform in																		
4	…the sports officials that I have come into contact with																		
5	…the selection process for my team																		
6	…the temperature while I am training or competing																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
7	…the spectators that watch me perform																		
8	…the relationship between my teammates and I																		
9	…the support I receive from staff that are employed to help me improve my performance																		
10	…the funding allocations in my sport																		
11	…how my team is selected																		
12	…the communication within my team																		
13	…my physical safety while training or competing																		
14	…injuries																		
15	…the organization that governs and controls my sport																		

In the past month, I have experienced pressure associated with…		FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
16	…the technology used in my sport																		
17	…what gets said or written about me in the media																		
18	…the relationship between my coach and I																		
19	…interruptions to training or competitions																		
20	…my goals																		
21	…the development of my sporting career																		
22	…the training or competition venue																		
23	…the food that I eat																		
24	…my performance being evaluated by others in my team																		
25	…the regulations in my sport																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
26	…the responsibilities that I have on my team																		
27	…my coach's personality																		
28	…my training schedule																		
29	…the accommodation used for training or competitions																		
30	…the atmosphere surrounding my team																		
31	…the shared beliefs of my teammates																		
32	…my teammates' attitudes																		
33	…selection of my team for competition																		

Sport Emotion Questionnaire

Below you will find a list of words that describe a range of feelings that sport performers may experience. Please read each one carefully and indicate on the scale next to each item how your participation in competitive sport *in the past month* has made you feel. There are no right or wrong answers. Do not spend too much time on any one item.

	Not at all	A little	Moderately	Quite a bit	Extremely
Uneasy	0	1	2	3	4
Upset	0	1	2	3	4
Exhilarated	0	1	2	3	4
Irritated	0	1	2	3	4
Pleased	0	1	2	3	4
Tense	0	1	2	3	4
Sad	0	1	2	3	4
Excited	0	1	2	3	4
Furious	0	1	2	3	4
Joyful	0	1	2	3	4
Nervous	0	1	2	3	4
Unhappy	0	1	2	3	4
Enthusiastic	0	1	2	3	4
Annoyed	0	1	2	3	4
Cheerful	0	1	2	3	4
Apprehensive	0	1	2	3	4
Disappointed	0	1	2	3	4
Energetic	0	1	2	3	4
Angry	0	1	2	3	4
Happy	0	1	2	3	4
Anxious	0	1	2	3	4
Dejected	0	1	2	3	4

Athlete Satisfaction Questionnaire

Below is a list of items concerned with the satisfaction of sport performers. Please indicate the extent to which you are satisfied with the content of each item with reference to your experiences during <u>this particular season</u> (or the one just completed). Remember that 'team' refers to any of the people in your sport organization, such as managers, coaches, teammates, and support staff. A response format ranging from 1 (not at all satisfied) to 7 (extremely satisfied) is provided.

I am satisfied with…	**Not at all satisfied**			**Moderately satisfied**			**Extremely satisfied**
1. the degree to which I have reached my performance goals during the season	1	2	3	4	5	6	7
2. the team's win/loss record this season	1	2	3	4	5	6	7
3. the improvement in my performance over the previous season	1	2	3	4	5	6	7
4. the team's overall performance this season	1	2	3	4	5	6	7
5. the extent to which the team is meeting (has met) its goals for the season	1	2	3	4	5	6	7
6. the improvement in my skill level	1	2	3	4	5	6	7

The Perceived Available Support In Sport Questionnaire

Below is a list of items referring to the types of help and support you may have available to you as a sportsperson. Please indicate to what extent you have these types of support available to you (0= Not at all, 1= Slightly, 2= Moderately, 3= Considerably, 4= Extremely).

If needed, to what extent would someone…	**Not at all**		**Moderately**		**Extremely**
1. help with travel to training and matches	0	1	2	3	4
2. help with tasks to leave you free to concentrate	0	1	2	3	4
3. do things for you at competitions/matches	0	1	2	3	4
4. help you organise and plan your competitions/matches	0	1	2	3	4

Group Environment Questionnaire

Below is a list of items referring to your perceptions of an athletic team for which you are a member. Remember that 'team' refers to any of the people in your sport organization, such as managers, coaches, teammates, and support staff. If you represent more than one team in your main sport, please refer to the team that you have competed most frequently for in the past month. On a scale of 1 through to 9 (1 indicating strongest agreement, 9 indicating strongest disagreement), please answer each question.

1. I'm unhappy with my team's level of desire to win ___
2. Some of my best friends are on this team ___
3. This team does not give me enough opportunities to improve my personal performance ___
4. This team is one of my most important social groups ___
5. Our team members rarely party together ___
6. Our team would like to spend time together in the off season ___
7. If members of our team have problems in practice, everyone wants to help them so we can get back together again ___
8. Our team members do not communicate freely about each other's responsibilities during competition or practice ___

Coach Athlete Relationship In Sport Questionnaire

Below is a list of items measuring the nature of the athlete-coach relationship. Please read carefully the statements below and circle the answer that indicates whether you agree or disagree (1= Strongly Disagree, 7= Strongly Agree). Please respond to the questionnaire with your principal coach in mind.

	Strongly Disagree			Half-way			Strongly Agree
1. I feel close to my coach	1	2	3	4	5	6	7
2. I feel committed to my coach	1	2	3	4	5	6	7
3. I like my coach	1	2	3	4	5	6	7
4. When I am coached by my coach, I am at ease	1	2	3	4	5	6	7
5. I trust my coach	1	2	3	4	5	6	7
6. I feel that my sport career is promising with my coach	1	2	3	4	5	6	7
7. When I am coached by my coach, I am responsive to his/her efforts	1	2	3	4	5	6	7
8. I respect my coach	1	2	3	4	5	6	7
9. I feel appreciation for the sacrifices my coach has experienced in order to improve my performance	1	2	3	4	5	6	7
10. When I am coached by my coach, I am ready to do my best	1	2	3	4	5	6	7
11. When I am coached by my coach, I adopt a friendly stance	1	2	3	4	5	6	7

Thank you for your time.

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APPENDIX FIVE
FINAL 23-ITEM OSI-SP
ORGANIZATIONAL STRESSOR INDICATOR FOR SPORT PERFORMERS ©

This indicator explores the pressures that sport performers have experienced as part of their participation in competitive sport in the past month. The questions contained within it will take about ten minutes to respond to.

Sometimes sport performers feel they should not admit to any pressures that they experience because these demands have the potential to have powerful effects on them and their performance. Actually, these pressures are quite common and a normal part of participation in competitive sport. To help us understand them we want you to share your experiences with us in an open and honest way. With this in mind, please remember that there are no right or wrong answers to the questions because every sport performer is different and their environments are often changing.

Any personally identifiable information that you provide us with will remain confidential. Apart from the researchers, nobody will have access to any of your responses.

Several questions use the word 'team'. This refers to any of the people in your sport organization, such as managers, coaches, teammates, and support staff. If you represent more than one team in your main sport, please refer to the team that you have competed most frequently for in the past month.

If you understand the nature and purpose of this indicator and you consent to complete it, please provide us with the following information before responding to the questions overleaf:

Today: _____ date _____ month _____ year

Name: _____ Age: _____ years _____ months

Gender (circle one): Male Female Nationality: _____

Current main sport: _____

Name of current team (if applicable): _____

Length of time competing in sport: _____ years _____ months

Current performance status (circle one): Full-time Part-time

Current performance level (circle one):

International	**Senior national**	**Collegiate/University**
State/Regional	**Junior national**	**County**
Club	**Other _____**	

Each of the following questions describes pressures that you may have experienced as part of your participation in competitive sport in the past month. Pressure is:

Those events, situations, or conditions that place a demand on you

For each question, place a tick in each of the three columns to indicate:

- **how often this pressure placed a demand on you ("Frequency" column),**
- **how demanding this pressure was for you ("Intensity" column), and**
- **how long this pressure placed a demand on you for ("Duration" column)**

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
1	…the responsibilities that I have on my team																		
2	…the relationship between my coach and I																		
3	…the regulations in my sport																		
4	…my coach's personality																		
5	…the accommodation used for training or competitions																		
6	…the training or competition venue																		

In the past month, I have experienced pressure associated with…		FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
7	…the organization that governs and controls my sport																		
8	…the atmosphere surrounding my team																		
9	…how my team is selected																		
10	…my teammates' attitudes																		
11	…the spectators that watch me perform																		
12	…the food that I eat																		
13	…the shared beliefs of my teammates																		
14	…what gets said or written about me in the media																		
15	…selection of my team for competition																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
16	…my training schedule																		
17	…the organization of the competitions that I perform in																		
18	…injuries																		
19	…the funding allocations in my sport																		
20	…the development of my sporting career																		
21	…the technology used in my sport																		
22	…travelling to or from training or competitions																		
23	…my goals																		

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APPENDIX SIX
FINAL 23-ITEM OSI-SP SCORING

ORGANIZATIONAL STRESSOR INDICATOR FOR SPORT PERFORMERS ©

SCORING

Tabulate the responses for each item on the table below. Item numbers appear in the top-left corner of each cell. Responses are written in each of the corresponding cells. Each overall subscale score is written at the foot of each column (by summing the responses in that column), in the 'total' cell.

Goals and Development			Logistics and Operations			Team and Culture			Coaching			Selection		
Frequency	Intensity	Duration	Frequency	Intensity	Duration	Frequency	Intensity	Duration	Frequency	Intensity	Duration	Frequency	Intensity	Duration
11	11	11	3	3	3	1	1	1	2	2	2	9	9	9
12	12	12	5	5	5	8	8	8	4	4	4	15	15	15
16	16	16	6	6	6	10	10	10	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
18	18	18	7	7	7	13	13	13						
20	20	20	14	14	14	TOTAL	TOTAL	TOTAL						
23	23	23	17	17	17									
TOTAL	TOTAL	TOTAL	19	19	19									
			21	21	21									
			22	22	22									
			TOTAL	TOTAL	TOTAL									

APPENDIX SEVEN
FINAL 23-ITEM OSI-SP PLUS EXTRA MEASURES FOR MODERATED REGRESSIONS (STUDY SEVEN)

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ORGANIZATIONAL STRESSOR INDICATOR FOR SPORT PERFORMERS ©

This indicator explores the pressures that sport performers have experienced as part of their participation in competitive sport in the past month. The questions contained within it will take about ten minutes to respond to.

Sometimes sport performers feel they should not admit to any pressures that they experience because these demands have the potential to have powerful effects on them and their performance. Actually, these pressures are quite common and a normal part of participation in competitive sport. To help us understand them we want you to share your experiences with us in an open and honest way. With this in mind, please remember that there are no right or wrong answers to the questions because every sport performer is different and their environments are often changing.

Any personally identifiable information that you provide us with will remain confidential. Apart from the researchers, nobody will have access to any of your responses.

Several questions use the word 'team'. This refers to any of the people in your sport organization, such as managers, coaches, teammates, and support staff. If you represent more than one team in your main sport, please refer to the team that you have competed most frequently for in the past month.

If you understand the nature and purpose of this indicator and you consent to complete it, please provide us with the following information before responding to the questions overleaf:

Today: _____ date _____ month _____ year

Name: _____ Age: _____ years _____ months

Gender (circle one): Male Female Nationality: _____

Current main sport: _____

Name of current team (if applicable): _____

Length of time competing in sport: _____ years _____ months

Current performance status (circle one): Full-time Part-time

Current performance level (circle one):

International	**Senior national**	**Collegiate/University**
State/Regional	**Junior national**	**County**
Club	**Other _____**	

Each of the following questions describes pressures that you may have experienced as part of your participation in competitive sport in the past month. Pressure is:

Those events, situations, or conditions that place a demand on you

For each question, place a tick in each of the three columns to indicate:

- **how often this pressure placed a demand on you ("Frequency" column),**
- **how demanding this pressure was for you ("Intensity" column), and**
- **how long this pressure placed a demand on you for ("Duration" column)**

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
1	…the responsibilities that I have on my team																		
2	…the relationship between my coach and I																		
3	…the regulations in my sport																		
4	…my coach's personality																		
5	…the accommodation used for training or competitions																		
6	…the training or competition venue																		

In the past month, I have experienced pressure associated with…		FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
7	…the organization that governs and controls my sport																		
8	…the atmosphere surrounding my team																		
9	…how my team is selected																		
10	…my teammates' attitudes																		
11	…the spectators that watch me perform																		
12	…the food that I eat																		
13	…the shared beliefs of my teammates																		
14	…what gets said or written about me in the media																		
15	…selection of my team for competition																		

	In the past month, I have experienced pressure associated with…	FREQUENCY						INTENSITY						DURATION					
		How often did this pressure place a demand on you?						How demanding was this pressure?						How long did this pressure place a demand on you for?					
		Never	Rarely	Sometimes	Often	Very often	Always	No demand	Very low	Low	Moderate	High	Very high	No time	A very short time	A short time	A medium amount of time	A long time	A very long time
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
16	…my training schedule																		
17	…the organization of the competitions that I perform in																		
18	…injuries																		
19	…the funding allocations in my sport																		
20	…the development of my sporting career																		
21	…the technology used in my sport																		
22	…travelling to or from training or competitions																		
23	…my goals																		

COPING (Crocker & Graham, 1995)

There are many ways to try to deal with pressures and different people deal with things in different ways. For each item below, please indicate how much you typically use each strategy to cope with pressures that you experience as part of your participation in competitive sport.

		Not at all	Very little	A medium amount	A lot	Very much
1	I ask teammates what they would do	1	2	3	4	5
2	I think hard about what steps to take to manage the situation	1	2	3	4	5
3	I do what has to be done, one step at a time	1	2	3	4	5
4	I pretend that it is not happening or hasn't really happened	1	2	3	4	5
5	I wish the situation would go away or somehow be over	1	2	3	4	5
6	I work harder	1	2	3	4	5
7	I lose my cool and get upset	1	2	3	4	5
8	I stop trying to perform my best	1	2	3	4	5
9	I take responsibility for what has happened	1	2	3	4	5
10	I act as though I am not having pressures	1	2	3	4	5
11	I try to get help from someone about what to do	1	2	3	4	5
12	I talk about my feelings with someone	1	2	3	4	5
13	I make a plan of action	1	2	3	4	5
14	I don't let myself think about anything except the pressures	1	2	3	4	5
15	I make jokes about the pressures	1	2	3	4	5
16	I get support and understanding from someone	1	2	3	4	5
17	I decrease the amount of time and effort I put into my sport	1	2	3	4	5
18	I blame myself for the situation	1	2	3	4	5
19	I get upset and let me feelings out	1	2	3	4	5
20	I try to improve my effort	1	2	3	4	5
21	I take direct action to overcome the pressures	1	2	3	4	5
22	I wish that I could change what is happening	1	2	3	4	5
23	I stop doing other things in order to concentrate on the pressures	1	2	3	4	5
24	I laugh about the pressures	1	2	3	4	5

PERFORMANCE SATISFACTION (Pensgaard & Duda, 2003)

Please circle one number below to indicate how satisfied you have been with your sporting performances over the past month.

0	1	2	3	4	5	6	7	8	9	10
Totally Dissatisfied										Totally Satisfied

EMOTIONS (Watson, Tellegen, & Clark, 1988)

Below are a number of words that describe different feelings and emotions. For each word, indicate to what extent you have felt this way during your participation in competitive sport over the past month.

		Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
1	**Interested**	1	2	3	4	5
2	**Distressed**	1	2	3	4	5
3	**Excited**	1	2	3	4	5
4	**Upset**	1	2	3	4	5
5	**Strong**	1	2	3	4	5
6	**Guilty**	1	2	3	4	5
7	**Scared**	1	2	3	4	5
8	**Hostile**	1	2	3	4	5
9	**Enthusiastic**	1	2	3	4	5
10	**Proud**	1	2	3	4	5
11	**Irritable**	1	2	3	4	5
12	**Alert**	1	2	3	4	5
13	**Ashamed**	1	2	3	4	5
14	**Inspired**	1	2	3	4	5
15	**Nervous**	1	2	3	4	5
16	**Determined**	1	2	3	4	5
17	**Attentive**	1	2	3	4	5
18	**Jittery**	1	2	3	4	5
19	**Active**	1	2	3	4	5
20	**Afraid**	1	2	3	4	5

Satisfaction With Life (Diener, Emmons, Larsen, & Griffin, 1985)

Below are five statements that you may agree or disagree with. For each statement, indicate your agreement.

		Strongly disagree		Neither agree nor disagree				Strongly agree
1	In most ways my life is close to my ideal	1	2	3	4	5	6	7
2	The conditions of my life are excellent	1	2	3	4	5	6	7
3	I am satisfied with my life	1	2	3	4	5	6	7
4	So far I have got the important things I want in life	1	2	3	4	5	6	7
5	If I could live my life over, I would change almost nothing	1	2	3	4	5	6	7

"How You Usually Behave" (Costa & McCrae, 1989)

Below are phrases describing people's behaviours. Please use the scale to indicate your agreement with each statement. Rate yourself as you honestly see yourself now, in relation to other people you know of the same sex as you are, and roughly your same age.

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	I am skilled in handling social situations	1	2	3	4	5
2	I don't talk a lot	1	2	3	4	5
3	I would describe my experiences as somewhat dull	1	2	3	4	5
4	I feel comfortable around people	1	2	3	4	5
5	I am very pleased with myself	1	2	3	4	5
6	I know how to captivate people	1	2	3	4	5
7	I have little to say	1	2	3	4	5
8	I rarely get irritated	1	2	3	4	5
9	I keep in the background	1	2	3	4	5
10	I often feel blue	1	2	3	4	5
11	I feel comfortable with myself	1	2	3	4	5
12	I don't like to draw attention to myself	1	2	3	4	5
13	I have frequent mood swings	1	2	3	4	5
14	I dislike myself	1	2	3	4	5
15	I am the life of the party	1	2	3	4	5
16	I panic easily	1	2	3	4	5
17	I am often down in the dumps	1	2	3	4	5
18	I am not easily bothered by things	1	2	3	4	5
19	I make friends easily	1	2	3	4	5
20	I rarely feel blue	1	2	3	4	5