When enough is enough: a study of burnout in sport

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When enough is enough: A study of burnout in sport

by

Kate Isabelle Goodger

A Doctoral Thesis
Submitted in Partial Fulfillment of the Requirements for the
Award of Doctor of Philosophy of Loughborough University

November 2007

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Abstract

This thesis aimed to explore two key objectives with regard to athlete burnout. The first objective was to examine the extant literature to determine, what is known about burnout in athlete populations, and what do we still need to know? A second objective was to extend understanding of burnout as a syndrome, through the exploration of burnout as a process.

The purpose of Study One was to provide an up to date summary of the burnout in sport literature through a systematic review. Findings comprised three sections: sample characteristics; correlates; and research designs and data collection. In the sport context research has focused predominantly on two population groups; coaches and athletes. Correlates of burnout emerged within three main groups of psychological, demographic and situational factors. Self report measures and cross sectional research designs were the most popular approaches employed. The study concluded with a summary of what is known within the existent literature and what still needs to be known about burnout within the sport context. The identification of notable gaps within the literature then in turn, informed the subsequent development of studies Two and Three.

Study Two aimed to explore burnout as a process across an athletic season within a sample of young elite British athletes (n=110). Specifically three models of professional burnout (e.g., Leiter and Maslach, 1988; Golembewski & Munzenreider, 1988; Van Dierendonck, Schaufeli, & Buunk, 2001a) were tested through path analysis. Predictions made by the models were tested within time (cross sectionally) and across time (longitudinally). Data failed to support any of the models but through post hoc exploration and subsequent model modification, Leiter and Maslach’s (1988) was supported by data within time. Opportunities for intervention and management of burnout were also discussed, and results were used in the development of study three.

Study Three presents a qualitative investigation that sought to extend research on the key characteristics and manifestations of Raedeke’s (1997) three dimensions of athlete burnout, through the exploration of the experiences of athletes who have lived with the syndrome. Thirteen elite athletes were interviewed through a collaborative interview process (SCIM: Scanlan Collaborative Interview Method) (Scanlan, Russell, Wilson, & Scanlan, 2003) in two phases. In the first phase manifestations of the three dimensions were examined, and in the second phase,
inter-relationships between dimensions were investigated. Key manifestations associated with the physical and emotional exhaustion dimension included: exhaustion, negative affect, illness and injury; lack of recovery, and energy depletion. Five major manifestations of the sport devaluation dimension emerged as motivation, lack of enjoyment, negative attitude, relationship difficulties and withdrawal. Finally reduced athletic accomplishment was described through two main manifestations which were, reduced performance accomplishment and reduced self-efficacy. This dimension has traditionally been marginalised in comparisons to the other burnout dimensions (Cox, Tisserand, & Taris, 2005) but athletes in the present sample described reduced accomplishment as particularly salient to their experiences of burnout. The significance of this dimension to athletes was considered to reflect possible contextual influences on athlete burnout. Inter-relationships were reported between the three dimensions and most notably, a bi-directional relationship between physical and emotional exhaustion and reduced athletic accomplishment, and the emergence of sport devaluation as a possible consequence of the inter-play between the other dimensions of athletic burnout. Findings from Study Three were discussed in relation to applied practice and future qualitative research opportunities. In addition, findings also informed the advancement of a modified definition of athlete burnout and descriptions of each of the three dimensions, as well as the proposal of a model of athlete burnout as a process, which are offered in the general discussion chapter of this thesis. The programme of research concludes with recommendations for future research, and a summary of key observations and lessons learned from conducting research in athlete burnout.
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For Dad and Mum and for tip and run and the days of the Ruptured Duck.
It is where it all started.
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Table of Contents</td>
<td></td>
</tr>
<tr>
<td>Abstract</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Table of Contents</td>
<td>4</td>
</tr>
<tr>
<td>Tables</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Figures</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Appendices</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Chapter One</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>The historical development of burnout</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pioneering phase</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Empirical phase</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Historical development of burnout in sport</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Defining burnout</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Defining burnout in sport</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Signs, symptoms and consequences of burnout</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manifestations of burnout</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Manifestations of burnout in sport</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Consequences of burnout</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Consequences in sport</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>A practitioners' model of athlete burnout</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conceptual confusion in the work setting</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Depression</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Fatigue</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Job stress</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Conceptual confusion in the sport setting</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Dropout</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Overtraining</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Staleness</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>Theories and research of burnout</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Theories and research of burnout in sport</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Stress-induced perspectives of athlete burnout</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Stress-recovery models</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Non-stress induced perspectives of burnout</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Model testing</td>
<td>48</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Athlete burnout research</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Recent research and developments</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Research rationale</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Why study burnout?</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Philosophical approach</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>Aims and structure of the thesis</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>Chapter Two</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Study One: A systematic review of burnout in sport</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Abstract</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Method</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Sources</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Procedure</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Analysis</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Results</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>General findings</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>Sample characteristics of athlete and coach burnout studies</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>Sample characteristics of athlete burnout studies</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>Correlates of burnout</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Psychological correlates of athlete burnout</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Qualitative athlete burnout research summary</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Research designs</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>Discussion</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Sample characteristics</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Correlates of burnout in sport</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Research designs</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>Limitations</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>Conclusion</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>Chapter Three</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>Study Two: An examination of the interrelationships among dimensions of</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>burnout across an athletic season.</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>Abstract</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>Method</td>
<td>94</td>
<td></td>
</tr>
</tbody>
</table>
Participants........................................................................................................ 94
Procedure........................................................................................................ 95
Instrumentation ............................................................................................... 95
Analysis........................................................................................................... 96
Results.............................................................................................................. 99
Scale reliabilities and descriptive statistics...................................................... 99
Model testing.................................................................................................... 99
Discussion......................................................................................................... 102
Conclusion......................................................................................................... 109

Chapter Four ................................................................................................. 111
Study Three: A qualitative exploration of the dimensions of athletic burnout.... 111
Abstract........................................................................................................... 112
Introduction...................................................................................................... 114
Method............................................................................................................. 117
Participants..................................................................................................... 117
Procedure........................................................................................................ 118
Data analysis strategy...................................................................................... 122
Results............................................................................................................. 124
Part 1: Dimensions of athletic burnout............................................................ 124
  Physical and emotional exhaustion (PEE)...................................................... 124
  Sport devaluation (DV).................................................................................. 132
  Reduced athletic accomplishment(RA)......................................................... 140
Part 2: Inter-relationships between the dimensions of athletic burnout........... 144
Discussion........................................................................................................ 147
  Physical and emotional exhaustion............................................................... 147
  Sport devaluation .......................................................................................... 152
  Reduced athletic accomplishment.................................................................. 155
  How are the three dimensions inter-connected?............................................. 159
Conclusion....................................................................................................... 165
Limitations....................................................................................................... 167

Chapter Five ................................................................................................... 170
General discussion.......................................................................................... 170
Introduction...................................................................................................... 171
Conceptual and theoretical implications.......................................................... 171
Tables

Table 1: Summary of sample characteristics of athlete burnout studies ................. 11
Table 2: Summary of sample characteristics of coach burnout studies .................. 11
Table 3: Summary of associations between psychological, demographic and situational correlates and burnout in athlete and coach studies .......................... 11
Table 4: Progressive phases of burnout ................................................................. 11
Table 5: Descriptive statistics and internal consistency estimates at time point ....... 11
Table 6: Fit indices of process models ................................................................. 11
Table 7: Summary of key manifestations associated with each of the dimensions of athletic burnout ................................................................. 11
Table 8: Comparison of Raedeke’s (1997) descriptions of the dimensions of athlete burnout with modified descriptions formulated through the present research programme ................................................................. 11
Table 9: Comparison of Raedeke’s (1997) definition of athlete burnout and a modified definition formulated through the present research programme .......... 11
Figures

Figure 1: Process models tested ................................................................. 11
Figure 2: Modified version of Leiter & Maslach's (1988) original model .......... 11
Figure 3: A diagrammatic representation of the athlete burnout process .......... 11
Appendices

Appendix 1. Athlete Burnout Questionnaire .............................................................. 11
Appendix 2. Interview guide phase one: Causes, symptoms and consequences ...... 11
Appendix 3. Interview guide phase two: Dimensions of athlete burnout ............... 11
Appendix 4. Example of athlete interview story board 222
Chapter One
Introduction
Introduction

Cresswell and Eklund (2007) observe that the burnout field has been plagued by a history of definitional difficulty and conceptual ambiguity. This chapter provides an overview of the major compounding issues that have led to this conceptual confusion, as well as the significant research advancements that have been made. Original work that established the concept of burnout (Freudenberger, 1974) stemmed from the professional or work related context, and from here it has been transposed into other social contexts including the sport context (Raedeke, 1997). The structure of the chapter will present research from the work related parent domain as a backdrop to research conducted in the athletic domain, in order to set the scene for the present research programme. The chapter comprises six sections and part one begins with an account of the historical development of burnout research and explores definitions of the concept. There has been a wide range of definitions proposed, and a criticism levied at the research literature has been the absence of a universally agreed definition (Cox, Tisserand, & Taris, 2005). This section presents the most popular definitions within the literature, as well as efforts to operationalise these definitions in research. Part two outlines signs, symptoms, and consequences of burnout. At both a conceptual and applied level, a challenge to the burnout literature has been the ability to distinguish between symptoms and consequences of burnout (Schaufeli & Enzmann, 1998). This section reviews the complexity of burnouts symptomatology, and also presents a practitioners guide that has sought to alleviate this issue for athlete burnout (Cresswell & Eklund, 2003).

Part three highlights and discusses issues of conceptual confusion. Some of the conceptual confusion surrounding burnout has been a result of a shared symptomatology with related conditions such as depression, fatigue, overtraining and staleness (Cresswell & Eklund, 2007; Shirom, 2005). This section therefore, differentiates between burnout and those conditions with which it is most commonly confused. Part four provides a brief overview of theoretical models that have been advanced to explain burnout in the sport setting, and key research studies to date. Part five provides the rationale for the thesis, and finally part six sets out the aims and structure of the research.

The historical development of burnout

In an extensive review spanning 25 years of burnout research Schaufeli and Buunk (2003) provide what they describe as a “short history of an ancient
phenomenon” (p. 383). It is with the work of Herbert Freudenberger (1974) that the
discovery of burnout is heralded but as the authors explain the history of the
phenomenon long precedes this. They cite references to burnout in Shakespeare and
the play The Passionate Pilgrim from 1599 in which Cytherea’s love for Adon is
described as “She burnt with loue, as straw with fire flameth. She burn out loue, as
soon as straw out burneth”, as well as case studies by Graham Greene (1960) in his
novel A Burn-Out Case the story of a world famous architect who experienced job
burnout, and Schwartz and Will’s (1953) in Avant-la-Lettre a case study of the
psychiatric nurse, Miss Jones. In 1969 “staff burnout” was mentioned by Bradley
(1969) in an article concerning probation officers, but it was through
Freudenberger’s experiences while working at a New York Free Clinic for drug
addicts, that burnout was introduced as a concept for scholarly discussion. In his
influential publication ‘Staff Burnout’, Freudenberger reported his observations of
burnout amongst young volunteers at the clinic, and described how these individuals
began volunteering as young motivated and idealistic individuals but over time they
became steadily depleted and lost motivation and commitment. At the same time as
Freudenberger’s (1974) work, empirical research was being carried out by a social
psychologist Christina Maslach, examining how human service employees coped
with the emotional demands of their job. She heard the term “burnout” being used
colloquially by Californian poverty lawyers to describe a process of gradual
exhaustion, cynicism and loss of commitment, and adopted it in her research
(Schaueli & Buunk, 2003). The origins of burnout therefore lie in the helping
professions (e.g., nursing, teaching, law enforcement, social work).

The early work of Freudenberger (1974) and Maslach (1976) provided an
initial description of burnout, and laid the foundations for the development of two
distinct traditions within the field. Freudenberger, a clinician, paved the way for a
practical approach primarily concerned with assessment, prevention and treatment,
and Maslach as a researcher, established a scientific approach mainly focused upon
research and theory. These traditions have shown prominence at different times and
as such the historical development of burnout can be divided into a pioneering and
empirical phase (Schaufeli & Enzmann, 1998).

Pioneering phase. The pioneering phase was the earlier of the two phases to
occur. Maslach (1993) explains, burnout described a phenomenon that was not
unknown at the time but which was rarely acknowledged or openly discussed. In
some occupations it was a taboo subject because it was “tantamount to admitting that at times professionals can (and do) act unprofessionally” (p. 19), and hence denial, or the perception that it only affected a minority were preferred responses. With the advancement of the term it was seen to capture the realities of people’s experiences in the workplace (Maslach, Schaufeli & Leiter, 2001), and gave a name to something that was “in the air” at the time relating to these professional experiences (Schaufeli & Buunk, 2003). As such burnout possessed an evocative power and was greeted with widespread public appeal, and commanded significant media interest. With increasing popularity, there was also growth in commercial interests in burnout. Schaufeli and Enzmann (1998) describe how a “booming burnout business” emerged through a proliferation of workshops, seminars, and self-help strategies designed to help combat burnout. By the late 1970’s and early 1980’s burnout had become a buzzword but rather than this acting as a catalyst to spark academic exploration of the concept, the popularity of burnout actually created significant barriers to its acceptance within scholarly circles.

Initial efforts to establish burnout as a serious field of research were met with strong criticism that it was simply a form of ‘pop psychology’ (Schaufeli & Buunk, 2003) lacking rigor and clear conceptual thinking. Early work aimed essentially to articulate burnout as a phenomenon, this was however, descriptive and based upon unsystematic observations (Schaufeli & Buunk). Due to the lack of a clear conceptual underpinning the field was affected by conceptual confusion as to what burnout actually was, and unfortunately this remains an issue today (Cox, Tisserand, & Taris, 2005). Freudenberger’s (1974) clinical perspective influenced this phase of burnouts development by emphasising a focus on symptoms of burnout and issues of mental health, and consequently burnout tended to be defined as a list of symptoms, or through what has been described as a “laundry list approach” (Schaufeli & Buunk, 2003). This was problematic because it was inevitably selective and symptoms were typically identified from “uncontrolled clinical observations or from interview studies with an impressionistic or unspecified analysis of data, rather than from rigorously designed and thoroughly conducted quantitative studies” (Schaufeli & Enzmann, 1998, p.19). Furthermore the popularity of burnout amongst more pragmatic thinkers than scholarly, led to a “blurred, all encompassing meaning of burnout. Many authors stretched the concept of burnout to encompass far more than it did originally, so that in the end it ran the risk of hardly meaning anything at all”
(Schaufeli & Buunk, 2003, p.384). In essence, in this phase the concept of burnout was used to mean very different things by different people, which did not always provide a basis for constructive communication on the problems and solutions for it (Maslach et al., 2001).

**Empirical phase.** Despite the initial resistance that burnout research faced, a more systematic empirical phase did follow and scientific study began to see its own boom from the early 1980’s. The number of published studies within the work related literature increased from 5 to 200 per year from 1975 to 1980, and stabilised at an average 300 publications per year by the end of the 1980’s (Schaufeli & Enzmann, 1998). At the turn of the millennium, total publications stood at over 6000 (Schaufeli & Buunk, 2003).

Work within this phase of burnout’s development largely quantitative in nature, with self report measures and surveys on large sample groups becoming the most popular approaches. Schaufeli and Buunk (2003) usefully summarise the empirical phase through the identification of seven key trends that emerged. First, an important focus of this phase was research on the assessment of burnout, and a number of measures were developed. The Maslach Burnout Inventory (Maslach and Jackson, 1981) was the first published and has subsequently become “almost universally accepted as the gold standard” in assessing burnout (Schutte, Toppins, Kalimo, & Schaufeli, 2000, p.53). Second, a global perspective on burnout began to develop. Although originally established in the United States, research began to emerge from other English-speaking countries including the UK and Canada, as well as other countries from Europe (e.g., Germany, Spain, The Netherlands and Poland) and Asia (e.g., Israel, China and Japan). Third, burnout had originally been limited to research conducted in the health professions but with expansion it began to be explored in other job and social contexts. This has been aided by the development of the MBI-General Survey (MBI-GS) (Schaufeli, Leiter, Maslach, & Jackson, 1996) which is an extension of the MBI that allows burnout to be studied independently from a specific job context. Fourth, the focus of empirical work has shifted away from individual factors towards more job and organisational factors. Fifth, the methodological rigor of research has improved with both the development of self-report measures such as the MBI but also in the design of studies to incorporate more longitudinal work. Sixth, linked to the improved methodological rigor is a move to more comprehensive conceptual approaches that link burnout to mainstream psychological theories.
Seventh, the concept of burnout has been enlarged to be incorporated into a spectrum of workers' well-being extending from negative (burnout) to positive (engagement) states (Maslach et al., 2001). Arguably of these seven trends, the operationalisation of the concept of burnout through the development of the MBI has made the most significant contribution to the advancement of the work related literature.

*Historical development of burnout in sport*

Academic enquiry into burnout in sport by researchers in the field of sport psychology first began through an examination of burnout in coaches by Cacesse and Mayerberg (1984). Referring directly to findings in the professional setting, the authors drew comparisons between the role of the coach and individuals in helping professions. They proposed that human relationships were a central feature of the coaching profession (as in the helping professions), and this together with the stressful and volatile nature of the coaching environment, made coaches a prime candidate for burnout. Studies since have extended the target group to include athletic directors (e.g., Martin, Kelley, and Dias, 1999), officials (e.g., Taylor, Daniel, Leith, and Burke, 1990) and athletes (e.g., Raedeke, 1997). Cohn (1990) and Silva (1990) marked the first published investigations of burnout in athletes. Cohn conducted a qualitative study that explored the sources of stress and athlete burnout in High School golfers, while Silva examined burnout in relation to physical training and formulated the Negative Training Stress Response Model which proposes that burnout in the result of a negative training adaptation response.

Within the athletic community burnout has received a similar reception to the work setting, and has been described as a buzzword or colloquialism in this context also (Raedeke, 1997; Vealey, Armstrong, Comar, & Greenleaf, 1998). There is much anecdotal evidence of cases of burnout in sport, and the media have again been instrumental in the popularisation of the term through sensational accounts of rising young stars thwarted from fulfilling their potential. Included amongst these stars are the young Jennifer Capriarti, and older sports stars who have suffered from the demands of their sport such as Bjorn Borg, and more recently the US media's focus on the possible burnout of David Beckham following his move to LA Galaxy, due to the volume of time he will spend on cross Atlantic travel through his England football team commitments (Telegraph newspaper, 2007). The appeal of burnout in the sport domain has been associated with the vivid images it conjures (Raedeke, Lunney & Venables, 2002). A frequently used visual analogy for the athlete or coach
affected by burnout is that it is “like a candle that once glowed brightly, began to flicker, and eventually extinguished” (Raedeke et al., p. 182). There has been longstanding and widespread concern about the well being of young athletes in particular, as a result of the debilitative consequences associated with burnout (Feigley, 1984; Gould, Tuffey, Udry, & Loehr, 1996a; Raedeke, 1997). As with the parent domain of professional burnout, burnout in sport may have also suffered from the popularity trap. Despite the interest that has surrounded burnout in the sport setting, empirical enquiry has been comparatively limited and the empirical research base remains relatively small. As a consequence of this, and its emergence as a colloquialism rooted predominantly in anecdotal discussion it has become a well used but often inaccurately applied concept (Gould et al., 1996a; Raedeke, 1997). Cresswell and Eklund (2003) explain that there are many misconceptions that exist about burnout and a clear understanding of the concept in the athletic context is yet to be established.

Defining burnout

A significant challenge to professional practice and the advancement of empirical research into burnout has been the attainment of a universal definition (Cox et al., 2005; Shirom, 2005). The lack of agreement stems in part from the atheoretical pioneer phase of the field’s development, and the difficulty in identifying clear boundaries that distinguish burnout from related conditions including anxiety and depression.

In the work related literature three principle types of definition for burnout have been advanced, namely; state, process and a synthetic definition (Schaufeli & Buunk, 2003). As discussed previously, early work offered definitions that essentially comprised a list of the symptoms of burnout, or “laundry list”. This resulted in the term becoming all-encompassing. These definitions have however been progressively refined to form state definitions that focus on a selection of core symptoms (Leiter, 1993), and which are used to supply diagnostic criteria (Schaufeli, Maslach & Malek, 1993). Schaufeli and Buunk (2003) identify five common features of these definitions: 1). Dysphoric symptoms of which emotional exhaustion is the most prominent; 2). Emphasis is on mental and behavioural symptoms, although physical symptoms also appear; 3). Burnout is work related; 4). Symptoms occur in ‘normal’ people; 5). The reduced effectiveness of the individual in work related tasks is a result of negative attitudes and behaviours. An example of a state definition...
provided by Brill (1984) is that burnout is a:
mediated, job-related, dysphoric and dysfunctional state in an individual
without major psychopathology, who has (1) functioned for a time at
adequate performance and affective levels in the same job situation and
who (2) will not recover to previous levels without outside help or
environmental rearrangement. (p. 15).

Strongly emphasised within Brill's definition is that it occurs in 'normal'
individuals, and that an individual's social environment and/or the work
organisation play an important role in the manifestation of burnout. This has
been a popular thread throughout the professional literature (Maslach et al.,
2001), and reflects a distinction from the athlete burnout context which has
tended to place greater emphasis on the traits of the individual than on sport
organisations.

One of the most widely accepted definitions of burnout to date, is the state
definition proposed by Maslach and Jackson (1984) in which burnout is defined as "a
psychological syndrome of emotional exhaustion, depersonalisation, and reduced
sense of performance accomplishment that can occur among individuals who work
with people in some capacity" (p.134). Emotional exhaustion is a draining or
depletion of emotional resources, depersonalisation a negative and cynical attitude
towards people at work that results in a dehumanised perception of them; and
performance accomplishment is the belief that one's objectives are not being
achieved and an associated feeling of insufficiency and low professional self-esteem
(Schaufeli & Buunk, 2003). In part the popularity of this definition is the result of its
operationalisation through the development of the Maslach Burnout Inventory
(Maslach & Jackson, 1986).

As research interests grew in burnout it became recognised that it was not
restricted to the human services professions but rather that it existed within the wider
context of the work domain, and hence could potentially be found in different types
of occupations (Maslach & Schaufeli, 1993). With the expansion of burnout research
into other occupations, the need arose to refine the original Maslach and Jackson
(1984) definition. Burnout became defined as a crisis in one’s relationship with work
in general, rather than a crisis in one’s relationship with people at work. Emotional
exhaustion now refers to fatigue irrespective of the cause, depersonalisation has
become *cynicism* denoted by a distant and indifferent attitude towards others at work,
and performance accomplishment is described as *professional efficacy* which refers to an individual’s expectations of continued effectiveness at work, and incorporates both social and non-social aspects of occupational accomplishment (Schaufeli & Buunk, 2003).

Limitations associated with state definitions of burnout include the considerable potential for variability in their scope and dimensionality, and their failure to account for the dynamic and chronic nature of burnout (Schaufeli & Buunk, 2003). Pines (1993) explained that burnout is a negative state of physical, emotional and mental exhaustion that is the end result of a gradual process of disillusionment. The tendency has been for research attention to focus more on burnout as a state than as a process. However, it is argued that process approaches to burnout stand to make a greater contribution to the understanding of the aetiology of the syndrome, and the subsequent development of effective intervention strategies (Leiter, 1993). Popular examples of process definitions include:

- Burnout is process that begins with excessive and prolonged levels of job tension. This stress produces strain on the worker (feelings of tension, irritability, and fatigue). The process is completed when the workers defensively cope with the job stress by psychologically detaching themselves from the job and becoming apathetic, cynical, and rigid (Chemiss, 1980, p.40).

- As a progressive loss of idealism, energy and purpose experienced by people in the helping professions as a result of the conditions of their work (Edelwich & Brodsky, 1980, p.14).

- To deplete oneself; to exhaust one’s physical and mental resources; to wear oneself out by excessively striving to reach some unrealistic expectation imposed by oneself or by the values of society (Freundenberger & Richelson, 1980, p.16).

Process definitions of burnout therefore emphasise the chronic developmental nature of the syndrome. Etzion (1987) explains that the slow development of burnout can mean that it often appears without warning and evolves unrecognised. She argues that:

- barely recognisable, and for the most part denied, misfits between personal and environmental characteristics are the source of a slow and
hidden process of psychological erosion. Unlike other stressful phenomena, the mini-stressors of misfit do not cause alarm and are rarely subject to any coping efforts. Thus the process of erosion can go on for a long time without being detected. (p.16-17).

Summarising the process perspective of burnout, this perspective maintains that it is the result of stress stemming from an imbalance between the individual's ideals, intentions, strivings, and expectations, and the reality of their everyday occupational life. The stress that results develops gradually and may remain unnoticed for some time, and it is the manner in which the individual copes with stress that is crucial for the development of burnout (Schaufeli & Enzmann, 1998). However despite the proposition of these definitions and associated process models of burnout that have been advanced (see Study Two), there has in reality been very little attention devoted to exploring how burnout develops overtime. Instead efforts have focused more on a state perspective through a predominance of cross sectional research. Such a perspective is delimiting to the understanding of the burnout syndrome as it does not inform how burnout manifests, and in turn how it might be prevented. The paucity of process research therefore, reflects a notable gap within the existant literature.

A third type of burnout definition is a synthetic definition. This is an overarching definition that combines both state and process perspectives, and has arisen to act as a bridging point between them. Schaufeli and Enzmann (1998) explain that it is not possible to provide a general description of burnout that agrees with all state and process definitions due to their contradictory nature, and hence the synthetic definition represents a working definition to aid researchers. Their synthetic definition is based upon key symptoms, and previous state and process definitions, and specifies a general symptomatology, its preconditions and the domain in which it occurs (Schaufeli & Buunk, 2003).

Burnout is the persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterized by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation and the development of dysfunctional attitudes and behaviours at work. The psychological condition develops gradually but may remain unnoticed for a long time for the individual involved. It results from a misfit between intentions and reality in the job. Often burnout is self-perpetuating because of
inadequate coping strategies that are associated with the syndrome.
(Schaufeli & Enzmann, 1998, p.36)
The definition narrows the symptomatology of burnout to one core indicator, exhaustion and four general symptoms: 1). Distress; 2). A sense of reduced effectiveness; 3). Decreased motivation; 4). Dysfunctional attitudes and behaviours at work. Frustrated intentions and inadequate coping strategies are seen to play a key role as preconditions to the development of burnout, and process is considered self-perpetuating even though it may not be recognised initially. Finally, the definition specifies that the symptoms are work related and burnout occurs in ‘normal’ people who do not suffer from psychopathology (Schaufeli & Enzmann, 1998). The synthetic approach provides a useful compromise between the state and process perspectives of burnout, and usefully captures the strengths of each. Through a synthetic approach therefore, is an opportunity to explore avenues for both the prevention of the syndrome, and also the development of effective management strategies for cases of burnout.

Defining burnout in sport

Mirroring the work related literature; researchers in the burnout in sport literature have also been unable to arrive at an agreed definition (Cresswell & Eklund, 2003; Gould, 1997). The continued pursuit of such a definition has seen a number of significant developments in recent years, however. Historically one of the most widely used definitions in the sport context was that of Smith (1986), who defines burnout as “a psychological, emotional and at times physical withdrawal from a formerly pursued and enjoyable activity in response to excessive stress or dissatisfaction” (p.39). Maslach and Jackson’s (1984) definition has also been applied to research in the sport context. This has predominantly been with respect to investigations examining burnout amongst coaches (e.g. Kelley, 1993; Pastor & Judd, 1993). In terms of athlete burnout, more recent work has attempted to provide an athlete specific definition of burnout (Raedeke, 1997). Maslach and Schaufeli (1993) warn however, that there is danger in transplanting Maslach and Jackson’s three dimensions uncritically to different contexts, and that it may consequently become meaningless or irrelevant. They advise researchers to conduct a “thorough analysis of the core elements of particular jobs that would allow researchers to adapt the three burnout dimensions to other occupations” and that “such re-analysis might
involve a change in the labels of some of the dimensions" (p. 13). Heeding this advice Raedeke (1997) created an athlete specific definition of burnout utilising Maslach and Jackson’s (1984) dimensions in the sport context. For athletes, Raedeke (1997) identified the core element of sport as their performance, and subsequently modified Maslach and Jackson’s (1984) three dimensions to align with this key contextual characteristic. Emotional exhaustion was recognised as being associated with the demands of intense training and competition schedules. The experience of a reduced sense of accomplishment for the athlete is in terms of skills and abilities. The athlete may be unable to achieve personal goals, or performs below expectations. Depersonalisation has not been identified as a salient dimension in athlete burnout, and this dimension is better represented by devaluation (Raedeke, 1997). As a result, the dimension of sport devaluation has emerged, and is associated with a loss of interest and negative attitudes such as a “don’t care” attitude, and resentment. In the context of swimming, Raedeke et al. (2002) offer the following sport specific definition of burnout: “A withdrawal from swimming noted by a reduced sense of accomplishment, devaluation/resentment of sport, and physical/psychological exhaustion” (p. 181).

With the emergence of Raedeke’s (1997) conceptualisation there has begun to emerge the opportunity for consensus in what comprises athlete burnout. This, in part, stems from the fact that this conceptualisation is athlete specific, and also has become operationalised through the development of a self report instrument which measures the three dimensions. This measure is the Athlete Burnout Questionnaire (Raedeke & Smith, 2001) (this will be discussed in more detail later in the chapter). In a similar vein to Maslach and Jackson’s (1986) three dimensions of professional burnout and the MBI, Raedeke’s conceptualisation and its operatinalisation through the ABQ, could be poised to make arguably the most significant advancement to athlete burnout research to date.

**Signs, symptoms and consequences of burnout**

Burnout is described as a multi-dimensional psycho-social syndrome (Cresswell & Eklund, 2006a). A syndrome refers to a group of signs and symptoms that occur together and characterise a particular abnormality (Shirom, 2005). The symptomatology of burnout is however problematic on a number of levels. Firstly, symptoms are as wide ranging as they are varied. Scuhufeli and Enzmann (1998) state that there is effectively an A (e.g., anxiety) to Z (lack of Zeal) list of associated...
symptoms. Secondly, the enthusiasm of the pioneer phase opened the flood gates to all manner of symptoms, pertinent and extraneous alike, in the absence of a clear and precise meaning of the term and systematic or controlled clinical assessment. Thirdly, the symptomatology of burnout has much in common with related conditions including job stress, anxiety, depression and chronic fatigue, and as such, there is ongoing debate as to whether burnout actually represents a distinct psychological phenomenon, or is merely “old wine in new bottles” (Schaufeli & Buunk, 2003, p.388). The overlap with related conditions will be returned to later within this section. Finally, there is also confusion between symptoms and consequences of burnout. Simply, many of the symptoms may also appear as consequences of the syndrome, for example: decreased motivation, increased anxiety and fatigue. In a bid to overcome this issue Schaufeli and Enzmann (1998) coined the term ‘concomitants’ or effects of burnout to incorporate both aspects, and more recently Schaufeli and Buunk (2003) have adopted the term ‘manifestations’ of burnout. Five main groups of manifestations are identified, these include: affective; cognitive; physical; behavioural and motivational. This framework will be employed in this section to provide an overview of the signs, symptoms and consequences of burnout but in addition, to provide justification for examining athlete burnout, a further sub-section has been provided that presents documented consequences of burnout. Specific to athlete burnout research, a model that aims to provide guidance to applied practitioners (i.e. coaches, sport psychologists, athletic trainers) in identifying and working with cases of burnout has been advanced by Cresswell and Eklund (2003), and is presented at the end of this section. Within this model early signs, symptoms and consequences are combined to establish a multi-level framework which illustrates different stages or opportunities in the intervention process.

Manifestations of burnout

Affective manifestations. Generally burnout is associated with a suppressed mood state (e.g., gloomy, tearful and depressed) although there can also be significant shifts in mood. Alongside this low energy-based mood state individuals may experience a more aggressive and anxiety based state. This is often the result of frustration due to diminished tolerance, increased irritability and oversensitivity. At the interpersonal level this can manifest as hostility and suspicion towards others (Schaufeli & Buunk, 2003).
Cognitive manifestations. At the individual level those affected by burnout feel helpless, hopeless and powerless. They feel out of control, work lacks meaning, and a sense of reduced accomplishment develops which can lead to feelings of insufficiency and low job-related esteem. Cognitive skills such as memory and attention can become impaired and thinking becomes more rigid, schematic and detached (Schaufeli & Buunk, 2003). Van Der Linden, Keijsers, Eling and Van Schaijk (2005) explain that concentration problems associated with burnout (e.g., inability to concentrate on reading a newspaper, or focusing on conversation) stem from impaired or compromised voluntary or executive control over attention. Such impairment results in cognitive failures relating to information processing, and such failures can manifest on a daily basis depending on the severity of burnout.

Physical manifestations. Findings for the relationship between burnout and health are conflicting. In their earlier review Schaufeli and Enzmann (1998) identify a consistent positive correlation between psycho-somatic complaints and burnout within the existent literature. Five years later however, Schaufeli & Buunk (2003) report that the empirical support for the often claimed relationship between burnout and health problems is in fact limited. They explain that when objective measures such as cholesterol and cortisol levels are employed empirical support is lacking but when self-report measures are used, a significant correlation emerges. In a special issue of the Psychology and Health (2001) journal devoted to burnout and health, Maslach (2001) confirmed that the relationship is weak at present and further research is required to fully understand the impact burnout has on both physical and mental health. Physical symptoms that have been generally associated with burnout include headaches, nausea, restlessness, sleep disturbance, ulcers, high blood pressure, disrupted menstrual cycle, and frequent and prolonged colds (Schaufeli & Enzmann, 1998).

Behavioural manifestations. Behavioural manifestations of burnout at the individual level are associated with such behaviours as increased substance use (e.g., alcohol, drugs and smoking), over and under-eating, high risk taking behaviour, avoidance, impulsivity and procrastination (Schaufeli & Enzmann, 1998). Away from the work environment this has implications to interpersonal relationships and in particular relationships with spouses and other family members. The most deviant and anti-social of these, increased substance use, has however received limited support in the professional literature (Schaufeli & Enzmann). Behavioural responses
to burnout have important implications economically at the organisational level in terms of staff turnover, absenteeism and impaired performance and productivity. Again however, research supporting the relationship between burnout and these factors is inconsistent and hence, inconclusive at present (Schaufeli & Buunk, 2003).

Motivational manifestations. The burned out individual is essentially in a motivational crisis in that intrinsic motivation and drive have vanished and are replaced by disillusionment, despondence and resignation to ‘this is how it is’. Ultimately the behavioural response to this is physical withdrawal from the situation, which again impacts at an organisational level (i.e., staff turnover, absenteeism etc). At the individual level this leads to feelings of isolation and alienation, and at the interpersonal level results in the breakdown of relationships, resentment and conflict. Key symptoms associated with motivational aspects of burnout include loss of idealism and zeal, boredom, demoralisation and disappointment (Schaufeli & Enzmann, 1998).

Manifestations of burnout in sport

Affective manifestations. In the sport context affective manifestations have been identified through aggressive behaviours towards team-mates, performance frustration, mental shut down, hatred and resentment towards the sport, moody, depression and anxiety (Cresswell and Eklund, 2006a; Raedeke et al., 2002; Udry, Gould, Bridges & Tuffey, 1997; and Gould, Udry, Tuffey & Loehr, 1996b and 1997). These manifestations can impact the individual at a performance level both in training and competition, and can also create conflict with significant others including parents, coaches and peers (Udry, Gould, Bridges, & Tuffey, 1997).

Cognitive manifestations. Effective information processing is crucial to the execution of motor skills, and hence impaired cognitive functioning has significant implications for athletic performance. Professional rugby players recalled ‘performance frustration’ where performance had begun to deteriorate and in response, players exerted greater effort in an attempt to improve performance (Cresswell and Eklund, 2006a). The resultant effect however was to set a downward spiral in motion where repeated failure led to increasing frustration and exhaustion. The players often reported a sense of not knowing why this was happening and being unable to reverse it. Alongside their experiences of exhaustion, it is quite possible that impaired cognitive functioning had impacted their execution of rugby related motor skills, and further that their developing frustration created additional pressure
on an already stretched executive control system.

**Physical manifestations.** In junior tennis players Gould et al. (1996b) reported physical manifestations including loss and change in appetite, injury, being overtrained, physical fatigue, illness, and a lack of physical energy. Due to the demands of heavy competition and training schedules fatigue is an inherent feature of the athlete's experience, however Cresswell & Eklund (2006a) make the distinction between day to day transient episodes of exhaustion which the athlete is able to cope with through rest and recovery, and more enduring experiences of exhaustion which are central to the concept of burnout. A significant aspect of burnout-related emotional exhaustion in sport appears to be the athlete's inability to 'pick themselves up' and recovery time from training, competition, illness and injury is delayed. The impact of burnout on the physical health of an athlete again is a significant issue that is likely to impair athletic performance.

**Behavioural manifestations.** In the context of team sports burnout can negatively impact team cohesion and potentially erode the team dynamic. Both in a rugby (Creswell & Eklund, 2006a) and swim team (Raedeke et al., 2002) environment social distancing and withdrawal from team-mates has been associated with athletes experiencing burnout. As discussed earlier with reference to affective manifestations, feelings of anger and frustration can also be vented towards team-mates leading to conflict and potentially aggressive behaviours. Increased substance use, most notably alcohol and recreational drugs, has been associated with burnout in athletes as a coping strategy (Cresswell & Eklund, 2003). The volatile emotional state of the burned out athlete can also make it difficult for those interacting with them on a one to one basis. Social networks and social support from key individuals such as parents and coaches plays a massive role in helping athletes to achieve their athletic potential. In a study by Udry et al. (1997) exploring social ties and coping amongst athletes with burnout and athletes with career ending injuries, parents and coaches reported that it was often difficult to get near to the athlete in order to provide support, and consequently it became difficult to know how best to support them.

**Motivational manifestations.** Motivation is the foundation of sport performance and achievement, and a key characteristic associated with peak performance in athletes (Duda & Treasure, 2006). Burnout as a syndrome erodes such a foundation, making success in an already demanding environment, ever more
difficult to achieve. In athlete burnout research, Raedeke (1997) refers to a loss of motivation or commitment in the athlete experiencing burnout as represented by a feeling of ‘having to’ rather than ‘wanting to’. Observations of behavioural responses to declining motivation through burnout have included absence or being late to training, reduced effort in sessions, lack of drive and reduced commitment to preparation for training and competition (Cresswell & Eklund, 2006a; Raedeke, et al., 2002). Research has also sought to examine the relationship between different types of motivation and burnout in athletes, and indicate that amotivation is a consistent positive correlate, intrinsic motivation a negative correlate, while the relationship with extrinsic motivation remains indeterminate (Goodger, Lavallee, Gorely & Harwood, 2007).

Consequences of burnout

Schaufeli and Enzmann (1998) have categorised the consequences of burnout within the professional domain into three main groups: 1). the individual; 2). effects on work orientation and attitude; and 3). the organisation. However they comment that research interest has focused considerably more on the causes of burnout than its impact, and there are relatively few studies exploring consequences. As a result of the narrow empirical base there are a number of claims within the literature which they suggest have not yet been substantiated by strong empirical support. Schaufeli and Enzmann discuss five possible consequences of burnout at the ‘individual’ level; depression, psychosomatic complaints (e.g., heart or circulatory disturbance, gastrointestinal complaints), health problems (e.g., increased blood pressure), increased substance use and spill-over into private life. With the exception of depression, the authors concluded that there was weak to no evidence to support the claim that these factors were a consequence of burnout. Depression has been shown to correlate positively with burnout but a number of explanations have been offered for this finding including; shared symptomatology (e.g., low energy, poor work motivation), neuroticism which underlies both depression and burnout, and external events such as stressful work conditions that may independently lead to both burnout and depression. Psychosomatic complaints and health problems are proposed to be concomitants of burnout rather than consequences, substance use has shown a weak correlation and for spill-over into private lives there is ‘no conclusive evidence’.

Work orientation and attitudes include job satisfaction, organisational commitment, and the intention to quit or leave the profession. Job satisfaction has
been one of the most investigated consequences of burnout, and correlates negatively with burnout. However the majority of this research has been cross sectional and hence causality cannot be determined. Organisational commitment also correlates negatively with burnout, although less strongly than job satisfaction. Intention to quit correlates positively but it has not yet been determined if the intention to quit actually translates into job turnover and this remains an area for further research (Schaufeli & Enzmann, 1998).

Organisational consequences have principally comprised absenteeism, job turnover and impaired performance. Absenteeism has been shown to be related to burnout (to emotional exhaustion in particular) but the amount of variance accounted for is small (Schuafeli & Buunk, 2003). There are only a few studies that have examined burnout and job turnover, and moreover a stronger association has been reported between ‘intention to quit’ and burnout than actual turnover. This suggests that individuals stay in their jobs despite experiencing burnout. The relationship between burnout and impaired performance has resulted in mixed findings when comparing studies employing objective vs self-rating measures. When self-rated measures have been employed a weak relationship with burnout has emerged, while results using more objective measures are ‘inconsistent and disappointing’ accounting on average for less than 1% variance. An important research question which as yet remains unanswered is whether feelings of reduced accomplishment result in an actual reduction in performance, or whether they reflect a negative evaluation that is merely another indicator of their dysphoric state (Schaufeli & Enzmann, 1998).

**Consequences in sport**

As with the work related literature there has been a small number of investigations examining the impact of burnout in the sport context. Due in part to the lack of empirical research, clear categories of consequences are not yet obvious within the extant literature. If unmanaged burnout ultimately results in physical withdrawal and this has been observed in the sport context through the loss of young and talented athletes (Coakley, 1992; Gould et al., 1996b) and coaches (Kosa, 1990). Feigley (1984) explains that such losses resulting from the early retirement or attrition of young elite athletes ahead of their physical and psychological prime marks both “unfulfilled human potential and a lowered quality of our national team programmes” (p.109). Hence the implications of burnout in the sport context are not
only to the health and well being of the affected individual and their performance but also to performance standards of sports National Governing Bodies. Performance with reference to coaches relates also to the development and propagation of coaching expertise that is thwarted through the potential early departure of the burned out coach (Kosa, 1990).

Within the sport context, the impact of burnout echoes much of what has been experienced in the work domain. Potential consequences of burnout observed amongst athlete populations include; decreased commitment to the sport which may be reflected in the loss of enthusiasm for preparation and competition, or reluctance/lack of motivation to self-initiate work in training sessions, performance decrements that may in turn impact selection/non-selection, funding and athlete confidence, increased susceptibility to injury and illness and the requirement of extended recovery periods to return to fitness, and increased anxiety and performance frustration (Cresswell & Eklund, 2003; Gould et al, 1997; Raedeke et al., 2002; Vealey, Armstrong, Comar, & Greenleaf, 1998). The burned-out individual also experiences mood changes that affect social consequences in that they are difficult to be around, or prefer to distance themselves from others (Cresswell & Eklund, 2003; Udry et al, 1997). The 'social distancing' that is associated with burnout ultimately leads to withdrawal, and progressive stages in this process can be observed through notable behavioural change in relation to interaction with teammates, conflict with team-mates and other athletes, and also distancing from the coach and other support staff (Cresswell & Eklund, 2006a; Raedeke et al., 2002). Research by Cresswell and Eklund (2003) and Udry et al. (1997) also discuss the wider implications of social distancing to significant others within the athletes’ social network. The athletes desire to distance themselves from others can manifest in relationship problems and family or marital issues. This can also be coupled with anti-social behaviours in the form of drug and alcohol abuse.

A practitioners’ model of athlete burnout

Stemming in part from the confusion surrounding what burnout actually comprises and the misuse of the term, Cresswell and Eklund (2003) have developed a ‘Practitioner’s Guide’ to burnout among athletes. It is designed to aid understanding by consultants (e.g., medical and psychological) and coaches of the syndrome specifically within sport. The authors offer a summary of early signs, symptoms, and potential consequences of athlete burnout, as well as potential
intervention strategies, through a model and accompanying case study examples.

Cresswell and Eklund (2003) state that the early signs that precede burnout are indicative of athletes who are at risk to experiencing burnout, and include key characteristics such as enduring negative mood shifts, an athlete struggling to meet professional and personal obligations, feelings of disappointment and frustration, feeling physically tired, difficulty in communicating or unhappiness with social life, and feeling that they are receiving insufficient support from coaching and support staff. They also make the distinction however, that these early warning signs may be subjective signs (relating to the athletes own perceptions) and/or objective signs (observable by others). They explain that it is the athlete's own perceptions that determine if elements actually indicate burnout or not, although the signs that are observable by others may also aid the role of those who are responsible for the athlete's welfare. Cresswell and Eklund advocate that identification of these early warning signs permits the employment of proactive management strategies to prevent or reduce the incidence of burnout.

The authors distinguish symptoms from early signs in that symptoms are what are experienced when an athlete actually has burnout, and are indicators of the key characteristics of the syndrome. In their article two contrasting examples of an athlete who is experiencing burnout against one who is not are presented, in order to outline burnout symptoms. Typically, the types of symptoms displayed by the burned-out athlete include mental and physical exhaustion, feelings of isolation, low confidence and difficulty in concentrating during performance, and feelings that their career is not moving forward and that their own contribution to the team is small and/or not valued by team-mates, coaches, and management. Although the contrasting examples provide a useful means through which to discuss the symptomatology, the authors acknowledge that such clear examples are rare due to the large variations that exist between individuals' stress perceptions and personal experiences.

In addition to those outlined previously, further consequences of burnout listed by Cresswell and Eklund (2003) include: lateness or absenteeism from training; blaming others; excuse making; aggressive behaviour; ‘going through the motions in training’; and ultimately stopping playing rugby.

A final section of the model details intervention strategies. Cresswell and Eklund (2003) comment that within both the work related and sport literature there
have been few instances where the development, implementation and evaluation of intervention strategies have been examined. Intervention strategies can be divided into management and preventative measures and their effectiveness is based on a number of assumptions. Preventative approaches assume that the individual is coping effectively and that the main focus is to refine and develop these coping strategies. A further assumption made is that such strategies or skills aid the coping process and prevent burnout. Management approaches assume that the individual is aware, or can be made aware, that they are experiencing burnout, and furthermore that they are able to learn and implement appropriate strategies when experiencing key characteristics of burnout (Cresswell & Eklund, 2003).

It can be identified from both the professional and sport literature that the consequences of burnout have received limited empirical investigation. This is an interesting observation especially when the popularity of the concept is considered and its colloquial use. There is a buzz around the concept, and it seems to be something which resonates with individuals within the sport community. This may in turn infer that the consequences are well known and understood, however the empirical base suggests otherwise. Therefore, there would seem to be a potential gap between anecdotal accounts and empirical knowledge which warrants further investigation.

*Conceptual confusion in the work setting*

As alluded to earlier there has been much conceptual confusion surrounding the term ‘burnout’ throughout the field’s historical development. This confusion stems principally from two key issues. First, the question of what is considered to comprise burnout, and second, how does burnout differ from closely associated conditions with which it shares key characteristics? Within the professional context burnout has been seen to demonstrate considerable overlap with conditions such as depression, fatigue and job stress which has led to the question of whether burnout actually represents a new and distinct psychological phenomena or not? (Schaufeli & Buunk, 2003). The conceptualisation of burnout is not simply about how it is defined but also how the concept is operationalised through measurement and assessment. The lack of agreement and confusion on the nature of burnout has meant that progress has been slow from both the academic and an applied perspective (Cox, et al., 2005).

With reference to the first issue of identifying what burnout actually is there are at present, a range of competing conceptualisations, and empirical research...
supporting them is equally varied. This presents a situation in which there is simply a lack of consensus and although this has been a feature of the field since the inception of burnout, it is an issue that continues to be pervasive, and potentially debilitating, three decades later. Illustrating the confusion that continues today are the comments of the editors of a special issue of the Work and Stress journal (2005) dedicated to burnout, in which four recent research studies were brought together reflecting current work in the field, together with accompanying commentaries from leading experts (Cox et al., 2005). The editors’ remark that disconcertingly the studies still reflect a failure to deal with some of the basic issues, chief among which is how burnout is conceptualised and the fact that they present four diverging views of what burnout is. They acknowledge that within the four papers there is some common ground emerging but that the conceptual debate and operationalisation of the concept will continue to be themes that dominate the agenda for future research.

Arguably the most significant school of thought relating to the conceptualisation of burnout in the work domain has been Maslach and Jackson’s (1981) three dimensional perspective (i.e., emotional exhaustion, depersonalisation and reduced accomplishment). Part of the reason for the widespread acceptance of this conceptualisation has been its operationalisation through the development of the Maslach Burnout Inventory (MBI) (Maslach & Jackson). This instrument has been used in over 90% of published studies (Schaulei & Buunk, 2003) and has been extended to include a range of versions that can be used in different domains (e.g., MBI-Human Services Survey – MBI-HSS; MBI Educators Survey-MBI-ES and MB-General survey-MBI-GS) (Schaufeli, Leiter, Maslach, & Jackson, 1996), and have been validated for use in non-English speaking countries (e.g., France, Germany and the Netherlands) (Schaufeli & Enzmann, 1998). However there is also continuing discussion about the dimensionality of this conceptualisation and whether there are too many or too few dimensions (Schaufeli & Taris, 2005).

An underlying criticism of Maslach and Jackson’s (1981) conceptualisation and the MBI is that it was not originally grounded in firm clinical observations, or based upon strong theorising (Taris, Le Blanc, Schaufeli & Schreurs, 2005). Instead it began through field interviews from which the three dimensions were devised, and then subsequently developed to form a rather arbitrary set of items that have been factor-analysed (Shirom, 2005). This has led to questioning of why these three
dimensions? Are all three needed? What is the inter-relationship between them? (Schaufeli & Taris, 2005). Historically emotional exhaustion has been considered to be the central component of burnout, and it has been the most thoroughly examined and widely reported of the dimensions. It is an individual state that manifests as a result of the depletion of emotional resources due to work demands. This experiential state also prompts action by the individual to cope with the emotional demands being placed upon them and to conserve their emotional responses. This leads to the second dimension of depersonalisation which is a coping strategy through which the individual begins to distance themselves from the source of their emotional depletion (i.e., work, client). This however, is a dysfunctional strategy that more often generates further feelings of emotional exhaustion. Finally as a consequence of the combined effects of emotional exhaustion and depersonalisation, the third dimension of reduced accomplishment emerges and the individual feels increasingly unable to meet the demands of their job and experiences lowered self esteem. Reduced accomplishment (professional inefficacy) has received least attention in research, and it is often marginalised in comparison to the other dimensions, which has led to its role in burnout being unclear. Due to the significance attached to emotional exhaustion, some researchers have reduced burnout to a unidimensional concept measured through this dimension alone (e.g., Shirom, 1989). However critics of this approach argue that reducing burnout to exhaustion serves to equate the syndrome to fatigue, and hence if burnout is simply fatigue, why have the concept of burnout at all (Schaufeli & Taris, 2005)? Supporters of a three dimensional conceptualisation of burnout argue that it offers “conceptual richness” (Leiter, 1993), and that a unidimensional perspective creates the potential for losing “sight of the phenomenon entirely” (Maslach et al., 2001, p.403). Taris et al. (2005) explain that depersonalisation and reduced accomplishment capture critical aspects of the relationship people have with their work, and as such different aspects of work-related well being. It would appear therefore that despite the promotion of Maslach and Jackson’s (1986) through the development of the MBI, there still remains today searching questions around the dimensionality of the conceptualisation. This has implications for Raedeke’s (1997) three dimension of athlete burnout, and suggests these questions may also be directed at this conceptualisation.

In terms of the second area and the overlap burnout has with related conditions; three conditions in particular have been frequently discussed within the literature,
these are: depression; fatigue and job stress.

**Depression.** Shirom (2005) identifies that the low physical and emotional energy (i.e., emotional exhaustion) considered to be at the core component of burnout, overlaps significantly with the symptomatology of depression. Due to a common symptomatology and shared aetiology researchers have often used these constructs interchangeably (Hemingway and Marmot, 1999). In a meta-analysis review of 18 studies however, Glass and McKnight (1996) concluded that despite the shared variance displayed by burnout and depression, this does not mean they are redundant concepts. In distinguishing between depression and burnout, Freudenberger (1983) explains that burnout tends (initially at least) to be associated with the social environment at work. In contrast, depression is seen to be more pervasive and generalises across all aspects of an individual's environment. Sadness, guilt, hopelessness and feelings of worthlessness are also considered basic features of depression but are not associated with burnout (Shirom, 2005). Furthermore factor analytic studies examining items measuring both conditions have generally reported that they load on different factors suggesting again that they are different constructs (Schaufeli & Enzmann, 1998). In order to combat the possible impact of depression in studies of burnout, Shirom (2005) has recently suggested that researchers include a measure of depressive symptomatology in the research design.

**Fatigue.** Schaufeli and Taris (2005) propose that burnout differs from fatigue in that it is a form of occupational fatigue characterised by both exhaustion and withdrawal. The authors base their conceptualisation on original thinking around psychological fatigue by Edward Thomdike (1914), in which the basic tenant of fatigue is 'the intolerance of any effort'. Fatigue is both the inability and unwillingness to expend effort, and as such possesses an energy and motivational component respectively. Inability relates to the depletion of energy resources, while unwillingness is associated with withdrawal and manifests through increased resistance, reduced commitment, lack of interest and disengagement. This withdrawal serves to prevent further depletion of energy resources and hence is a protective strategy. Schaufeli and Taris explain that in episodes of 'normal' occupational fatigue withdrawal is highly functional as it allows the individual to recuperate and reduce fatigue. However in the case of burnout, it is seen to be part of the problem rather than the solution because it becomes habituated into relatively permanent impaired motivation. For the authors therefore, exhaustion (inability) and
withdrawal (unwillingness) comprise two inseparable features of burnout which extend far beyond simple fatigue.

Burnout has also been discussed in relation to chronic fatigue syndrome (CFS) (Schaufeli & Buunk, 2003). This syndrome involves a persistent unexplained fatigue as its most prominent symptom. However unlike burnout, CFS is highly pervasive with the potential to affect any of the body’s major systems (i.e., neurological, immunological, endocrine and musculoskeletal) and as such, although accompanying psychological symptoms can occur, CFS is generally considered to be primarily a physical complaint. Conversely, although physical symptoms are not uncommon in burnout cases, symptoms are largely psychological. The ‘unexplained’ nature of the fatigue associated with CFS also marks an important distinction from burnout. In those experiencing CFS the origin of their fatigue is unclear, whereas in burnout cases fatigue is job or work related, and negative and dysfunctional attitudes and behaviours towards the work environment develop which are not observed in CFS sufferers (Schaufeli & Buunk, 2003).

Job stress. Occupational or job stress is a generic term that refers to “any affect-laden negative experience that is caused by an imbalance between job demands and the response capability of the worker” (Schaufeli & Enzmann, 1998, p.8). Burnout is can be viewed as one potential reaction to chronic stress (Dale & Weinberg, 1990) and as such, it is considered to be a special type of prolonged job stress that results particularly from interpersonal demands at work (Schaufeli & Buunk, 2003). It is also distinguished from job stress through its symptomatology in that burnout represents a multidimensional stress response characterised by negative, dysfunctional, job-related attitudes and behaviours not covered by the traditional job stress concept (Schaufeli & Enzmann, 1998).

Stress is explained as a process in which the situation is initially appraised with respect to demands and an individual’s ability to cope with these demands. The appraisal stage may also include resources and support available to the person for coping and constraints affecting coping. Work situations that are perceived and experienced as stressful are those when the individual’s resources are unable to meet demands made upon them, and where constraints are placed on potential coping strategies, and there is limited social support for coping (Cox, Kuk & Leiter, 1993). Following cognitive appraisal and perceptual components of the process, stress responses result which include those at a physiological level and feelings of general
discomfort and unpleasantness, negative emotions and in the longer term changes in general well being. In addition, such responses may be a consequence of attempts at coping. This coping process also has a feedback effect and in turn impacts the experience and response to stress. Burnout is considered to be a “particular slice across the stress process”, and the dominant view in burnout research is that a “causal chain exists in which the experience of stress contributes to the aetiology of burnout, which in turn is related to negative job perceptions, lack of organisational commitment, and withdrawal behaviour such as absence and leaving” (Cox, et al., 1993, p.183).

An alternative explanation of the conceptual overlap that appears to exist between stress and burnout is offered by Brill (1984). Brill suggests stress is a temporary adaptation process (accompanied by physical and mental symptoms), and as new demands are placed upon an individual, with appropriate resources and support, they adapt and return to a normal level of functioning. Burnout occurs when there is breakdown in adaptation accompanied by chronic malfunctioning at work. Brill also adds that when the concepts are considered over time as a process they can be discriminated retrospectively by successful adaptation denoting job stress, and a breakdown in adaptation indicating burnout.

Although burnout has been confused with depression, job stress and fatigue, and there is marked cross over between conditions, there does also appear to be compelling rationale that distinguishes burnout as a concept and syndrome in its own right.

*Conceptual confusion in the sport setting*

The sport context like the work context has also long debated, and continues to debate, the nature of burnout. Although there have been significant advances in recent years with respect to the conceptualisation of athletic burnout and its assessment (Raedeke, 1997; Raedeke & Smith, 2001), the advancement of research has been hindered by the lack of a consistent operational definition and the attainment of universal agreement remains a pursuit of research in this domain also (Cresswell & Eklund, 2006a).

The work of Raedeke (1997) has been instrumental in influencing current thinking on the conceptualisation and measurement of athletic burnout. Since the first burnout research was conducted in the sport context with Caccese and Mayerberg’s (1984) study of coach burnout, Maslach and Jackson’s (1984) three
dimensions have been applied to this setting. The transference of ‘professional’ burnout to research amongst coaches and other practitioners (i.e., athletic trainers, officials) has occurred with limited contextual interference as “human relationships are central to coaching relationships” and these are “people-oriented occupations” (Caccese & Mayerberg, 1984, p.279) which are seen to parallel the human services professions. However, the situation is less straightforward for research examining burnout amongst athletic populations. Raedeke (1997) explains that the provider-recipient relationship that is at the centre of Maslach and Jackson’s conceptualisation of burnout mirrors the coach-athlete, and hence the coach is the provider and the athlete the recipient. As burnout in this conceptualisation affects the provider (i.e., the coach), through their relationship with the recipient (i.e., the athlete), it does not apply to athletes. Cresswell and Eklund (2006a) warn that the “notion of burnout as a syndrome has been transposed into sport with little consideration about how the syndrome might be manifested within the context of (and relative to) the demands of the athletic environment” (p.220). Early work investigating athletic burnout (e.g., Coakley, 1992, Cohn, 1990, Gould et al, 1996a) employed Smith’s (1986) definition of burnout (i.e., psychological, emotional and at times physical withdrawal from a formerly pursued and enjoyable activity in response to excessive stress or dissatisfaction), and as such burnout was conceptualised as a withdrawal based phenomena. Raedeke and Smith (2001) reflect critically on Smith’s (1986) definition and suggest that although it “is intuitively appealing and provides a heuristic understanding of athlete burnout, it is unclear how well it differentiates athletes who withdraw from sport because of burnout versus other reasons for leaving sport” (p.282). Raedeke (1997) sought therefore to modify Maslach and Jackson’s (1981) conceptualisation of burnout for application to athletic populations as an alternative to Smith’s withdrawal-based approach. The alternative definition advanced by Raedeke (1997) is shaped by the delineating characteristics of burnout in the athletic context, that is, the common signs and symptoms associated with the phenomenon, as was the original strategy applied to the development of Maslach and Jackson’s definition. Although Raedeke (1997) has successfully created an athletic specific definition of burnout it has only been employed in a limited number of studies (e.g., Creswell & Eklund, 2005a, Creswell & Eklund, 2005b, Raedeke & Smith, 2001, Raedeke & Smith, 2004), and further validation of the dimensions within the sport context is still required (Cresswell & Eklund, 2006a).
Between Smith's (1986) definition and the emergence of Raedeke's (1997) modification of Maslach and Jackson's (1984) conceptualisation of burnout, Eades (1990) attempted to operationalise the latter through the development of the Eades Athlete Burnout Inventory (EABI). Eades defined burnout as:

A psychophysiological syndrome characterised by emotional and physical exhaustion, an impersonal attitude towards others, feelings of being depersonalised by others, decreased athletic accomplishment/performance, a lack of meaning and devaluation of self/sport, and feelings of role conflict and role ambiguity that an athlete may experience in reaction to the chronic stresses of training and competition and may eventually lead the athlete to withdraw from participation in this sport. (p.55)

Eades' definition and inventory have however been criticised due to conceptual and psychometric limitations (Cresswell & Eklund, 2006b; Raedeke & Smith, 2001). Conceptually, the definition proffered by Eades is significantly broader than Maslach and Jackson's original, and also incorporates both antecedents and defining features of burnout. Psychometrically, factor analysis has revealed that four of the six factors which comprise the scale are reliable, whilst two are unreliable and a number of the items loaded on different factors to those originally predicted (Raedeke & Smith, 2001).

As identified earlier, Raedeke and Smith (2001) have developed the Athlete Burnout Inventory (ABQ) as an operationalisation of Raedeke's (1997) multidimensional conceptualisation of athletic burnout. The ABQ comprises three five-item subscales which assess physical and emotional exhaustion, sport devaluation and reduced sense of athletic accomplishment. Responses to each item are scored on a five-point Likert scale ranging 1 (Almost Never) to 5 (Almost Always). Research employing the ABQ to date has reported acceptable internal consistency (alphas between 0.85 and 0.91), test-retest reliability, and construct validity (Cresswell & Eklund, 2005a; 2005b; Raedeke & Smith, 2001; 2004).

Furthermore, Cresswell and Eklund (2006b) conducted a multitrait-multimethod analysis to assess the convergent, discriminant, and construct validity of the ABQ, MBI- General Survey (MBI-GS) (Schaufeli, Leiter, Maslach, & Jackson, 1996), and the Depression Anxiety Stress Scales (DASS) (Brown, Chorpita, Korotitsch, & Barlow, 1997). The authors compared the ABQ with the MBI-GS as this measure has been specifically designed for the assessment of burnout outside the helping
profession setting, having arisen from limitations associated with the original MBI when employed outside this context (Schaufeli et al., 1996). The authors also present that the discrimination of burnout from other negative affective states such as depression has been a salient issue within burnout research due to conceptual confusion generated by their shared symptomatology. Findings from the study reported that the ABQ and MBI-GS displayed acceptable convergent validity and satisfactory internal discriminant validity, and indicated adequate discrimination between the concepts of burnout and depression. The authors concluded that the results of their study supported the use of the ABQ to assess athlete burnout. At present, it appears then, that Raedeke’s (1997) three dimensions of athlete burnout and the ABQ are paving the way forward for athlete burnout research.

As with burnout in the professional domain, there has been much overlap between burnout and related conditions in the sport context. Burnout has most commonly been confused with dropout, overtraining and staleness.

**Dropout.** The end product of burnout, if not managed effectively, is withdrawal or dropout from the activity. However, not all dropout in sport is the result of burnout (Gould & Dieffenbach, 2002). There are many reasons for attrition in sport, and burnout is just one of them. Individuals may simply want to try something new, or aspects of their life change and other priorities emerge. In a review of nine studies examining athlete dropout Gould (1987) reported that in six of the nine studies the desire to participate in other activities was the most prominent reason given for dropout. In later work Gould (1997) makes the further distinction between burnout and dropout in explaining that athletes who discontinue sport as a result of burnout do so because of prolonged, excessive stress. Athletes who dropout, are not exposed to such experiences of stress.

**Overtraining.** In a review chapter of overtraining, Raglin and Wilson (2000) comment that the use of terminology within the literature has been inconsistent. They explain that overtraining has been defined in both positive and negative terms and as a stimulus, response, or process. A distinction is also made between the use of the term by European coaches and sport scientists, and in the United States. In Europe it is considered to reflect the detrimental effects of excessive training, and in the United States, to be a beneficial, prescribed period of training but which sometimes results in reduced performance. More recently, Gould and Dieffenbach (2002) offer a consensus definition of overtraining developed through the work of a special task
force formulated by the United States Olympic Committee (comprising elite coaches and sport scientist specialists in the field). This committee defines overtraining as “a syndrome that results when excessive, usually physical, overload on an athlete occurs without adequate rest” (p. 25). In other words, the athlete is unable to sufficiently recover from the overload. The consequences of this overload are performance decrements, an inability to train, and potentially staleness and even burnout.

**Staleness.** Staleness has often been used synonymously with the term burnout but more recent research has begun to provide a clearer distinction for the term (e.g., Kentta, Hassmen, & Raglin, 2001; Raglin, Sawamura, Alexiou, Hassmen, & Kentta, 2000). Staleness is generally associated with a negative outcome of overtraining that is the result of the athlete’s failure to adapt to the prescribed training regimen (Raglin & Wilson, 2000). Raglin et al. explain that a hallmark of staleness “is an unexpected and long-term loss of performance that cannot be attributed to factors such as illness or injury” (p. 61). A range of symptoms characterise staleness but the most consistent include loss of appetite, mood disturbance, depression, and increased perceptions of effort (Kentta et al., 2001; Raglin et al., 2000). An operational definition that has been employed to help identify incidences of staleness is the “[experience of] a significant performance decrement that [has] persisted for at least two weeks, and that without doubt was caused by physical training (i.e., not by illness or injury)” (Kentta et al., 2001, p. 461). In a study of staleness in Swedish age-group athletes employing this definition, Kentta and colleagues (2001) argued that a key feature differentiating burnout from overtraining and staleness was a motivational shift and subsequent motivational consequences. These consequences included most notably a lack of desire to train. The authors argued that athletes who are overtrained and experience staleness typically retain the motivation to train, where as the athlete with burnout, loses interest in continuing participation in their sport and motivation to train or compete. Repeated bouts of staleness are hypothesised to increase the risk of burnout.

As with depression, job stress and fatigue and professional burnout, there is compelling argument emerging that distinguishes athlete burnout from dropout, overtraining and staleness. Moreover, it is in some ways reassuring to observe that the conceptual clarity underpinning overtraining and staleness has also been some what hazy, which is likely to have compounded the separation of boundaries between burnout and these conditions.
Theories and research of burnout

It is not within the scope of this thesis to provide a comprehensive review of the work related literature which stands at over 6000 publications, or existent theories which number over 14 (Schaufeli & Buunk, 2003). Instead, specific detail is provided with reference to work-related research and theories that have been utilised in the formulation and orchestration of the three studies included in this thesis.

Theories and research of burnout in sport

Within the athlete burnout literature theoretical models which attempt to explain how burnout manifests, are divided into stress-induced perspectives and non-stress induced perspectives (Raedeke, 1997). Stress perspectives of burnout have historically been more prevalent and occupied greater research attention. They propose that burnout is the result of chronic exposure to stress (Smith, 1986). Criticism of this perspective however, is that if burnout is perceived as exclusively related to stress this restricts understanding of the uniqueness of the phenomena. Moreover the concept has limited value in that it becomes “the same old wine, but with a newer and fancier label” (Raedeke, 1997, p.398), and is simply another perspective on stress. Raedeke argues “everyone can experience stress but not everyone who experiences stress burn out” (p.398).

Stress-induced perspectives of athlete burnout.

Traditionally there have been two main stress-induced models of athlete burnout, namely Silva’s (1990) Negative Training Stress Response Model and Smith’s (1986) Cognitive -Affective Stress Model. More recently there has been a resurgence of interest in the stress perspective, with the advancement of new models of athlete burnout which focus upon the relationship between stress and recovery (e.g., Kallus & Kellmann Stress and Recovery Model (2000) and Kentta and Hassmen Total Quality Recovery (1998).

Smith’s (1986) Cognitive –Affective Stress Model. Smith (1986) offered a four stage cognitive-affective stress model to explain stress-induced burnout. The model proposes that burnout is a process that involves physical, psychological, and behavioural components. An overarching feature of these components is that they are influenced by motivation and personality factors. The first stage of the model refers to situational demands that the athlete is placed under, and may include such factors as intense training schedules. The second stage involves cognitive appraisal of the situation. Some athletes may perceive the situation as threatening and that the
demands outweigh their resources to cope with it. This appraisal governs the nature and intensity of emotional responses, and negative appraisal may lead to stress. In the third stage of physiological responses, if the situation has been perceived as threatening physiological changes occur such as increased tension and fatigue, insomnia, lethargy, and illness. The fourth and final stage, behavioural responses, is characterised by types of coping and task behaviour such as performance decrements and withdrawal that result from the physiological responses. An additional feature of this model is that the burnout process is considered to be circular and continuous, where behavioural responses feedback into the situational demands stage. Reciprocal relationships are also hypothesised between the four stages (Gould et al., 1996a).

Smith (1986) acknowledges that not all withdrawal from sport is burnout-related. In an attempt to differentiate between burnout-induced withdrawal and other-determinant withdrawal (i.e., dropout), Smith applied Thibaut and Kelley’s (1959) social exchange theory as a framework. The principles of this theory propose that human behaviour is governed by the desire to maximise positive experiences and to minimise negative. Individuals participate in activities as long as they are favourable, and this favourability is determined by the balance of costs and rewards and how these compare to the outcomes of alternative activities (Weinberg & Gould, 2003). If activities fall below the comparison level for alternatives, individuals are likely to withdraw in the hope of pursuing alternative activities.

Smith (1986) reports that the most prevalent reason for dropout in youth sport is the attraction of alternative activities. These alternatives are perceived to be above the outcomes of participation in their current sport. For the individual who experiences burnout, however, withdrawal results from an increase in stress-induced costs for the present activity. The previously enjoyed activity becomes an aversive source of stress.

Silva’s (1990) Negative Training Stress Response Model. In his model of athlete burnout Silva (1990) attempts to offer clarification on the boundaries between where the concepts of burnout, overtraining, and staleness start and finish, and how exactly they are related to each other. The model proposes that burnout is a negative product of excessive training. Physical training places stresses on the athlete that can be both positive and negative. While positive stress results in positive adaptations and training gains, negative stresses such as too much training leads to negative adaptation (maladaptation) and negative training responses. Silva states that these
responses include staleness ("an initial failure of the body’s adaptive mechanisms to cope with psycho-physiological stress", p. 10), overtraining ("detectable psycho-physiological malfunctions characterised by easily observed changes in the athletes’ mental orientation and physical performance", p. 10) and burnout ("an exhaustive psycho-physiological response exhibited as a result of frequent, sometimes extreme, but generally ineffective efforts to meet excessive training and sometimes competitive demands", p. 11). These responses are hypothesised to lie on a continuum from staleness experienced as a result of overtraining, and which if unmanaged, progresses to the more severe state of burnout (Gould & Dieffenbach, 2002).

**Stress-recovery models**

The stress-recovery perspective aims to explain the complex relationships among staleness, overtraining, recovery, stress, burnout, coping, and mood. Although reminiscent of some of the tenants of Silva’s (1990) earlier model, the stress and recovery approach adopts a psychosociophysiological framework. Rather than simply being the result of an athlete’s failure to adapt to physical training, the stress and recovery approach considers that sources of stress may be psychological, sociological or physiological in nature. The combination of these factors, together with an individual’s ability to cope with stress and the provision of quality recovery predisposes athletes to conditions such as staleness, overtraining and burnout.

**Kallus and Kellmann’s (2000) Stress-Recovery Model.** This Stress-Recovery Model suggests that burnout is the product of accumulating stress (which is both training and non training based) without appropriate recovery. Stress is defined within this model as an:

unspecific reaction syndrome characterised by deviation from the psychobiological homeostatic state of the organism. Stress is accompanied by emotional symptoms such as anxiety and anger as well as elevated autonomic and central activation, humoral responses, changes in immune function, and behavioural changes. Stress sends processes of adaptation and coping into action (Kallus & Kellmann, 2000, p. 209).

The authors explain that recovery is less well-defined but it is complementary to the concept of stress. Strategies included in recovery are goal-oriented regeneration, physiological, and behavioural processes, social activities, and elements of coping responses. Overtraining occurs when an athlete is exposed to stress and is unable to
recover sufficiently from this exposure. Progressively this imbalance of stress and recovery leads to staleness and then burnout. In addition this approach is also concerned with intervention and advocates a multidimensional perspective to treatment, which encompasses physiological, emotional, cognitive, behavioural/ performance, and social aspects of the problem.

To further research of the stress-recovery relationship, as well as to facilitate early identification of affected individuals, Kellmann and Kallus (2001) have developed a multi-dimensional self report measure – the Recovery Stress Questionnaire (RESTQ). This instrument contains subscales relating to stress and recovery aspects, and scores are provided for both. The aim is to assess the recovery-state of individuals which indicates the extent to which they are physically and/or mentally stressed, whether or not they are capable of using individual strategies for recovery, as well as which strategies are used. A version has been developed for athletes (RESTQ-Sport; Kellmann & Kallus, 2001) and coaches (RESTQ-Coach; Kallus & Kellmann, 1995). Two subscales within the instruments refer specifically to burnout; emotional exhaustion and personal accomplishment. Data collected for these dimensions has been limited within published research, and there has been no clear rationale presented for the use of these dimensions and exclusion of devaluation.

Kentta and Hassmen’s (1998) Total Quality Recovery. Kentta and Hassmen propose a conceptual model of under-recovery and overtraining, and a monitoring tool to assess the quality of recovery. Central to this model is the concept of staleness, which is referred to as a “severe outcome resulting from an imbalance between total stressors and total recovery, which is largely determined by the overall capacity (stress tolerance) of the individual” (Kentta, 2001, p. 41). The authors propose that conditions such as staleness, overtraining and burnout are a product of physiological, psychological, and sociological subsystems. Furthermore an individual’s adaptation or maladaptation to training is affected by stress (training and non-training), recovery (quality of), and stress tolerance (capacity of the individual to cope with stress). Burnout is perceived to be a product of insufficient quality recovery.

Non-stress induced perspectives of burnout

There are currently two alternative theories to the stress perspective of athlete burnout, namely Coakley’s (1992) Unidimensional Identity Development and External Control Model and Schmidt and Stein’s (1991) Sport Commitment Model.
Neither perspective is strictly in opposition to the stress-induced perspective of burnout but rather propose that stress tells only part of the story of burnout.

_Coakley's (1992) Unidimensional Identity Development and External Control Model._ Coakley’s (1992) unidimensional identity development and external control model postulates that stress is a symptom of burnout rather than a cause. Through a sociological perspective, this model asserts that burnout is a social problem that is the product of two key factors that are manifested by the organisation of sport. Specifically, the first relates to organisational constraints that prevent the development of a multifaceted identity. Exclusive involvement in sport means that the young performer is unable to explore and develop other aspects of their identity. They become identified and recognised by others through sport, and their identity becomes hinged upon success in sport. Coakley describes this as a process of identity foreclosure which creates a tightrope situation for young athletes. Their feelings of competence were limited to their participation in sport and while things were going well they feel good but if the balance of things began to shift, the constraints of their narrow identity generated feelings of insecurity.

The second key factor was that the organisation of sport around young athletes results in limited autonomy for the young person. Decision making is in the hands of others. Coakley proposes that it is individuals who are ‘highly accomplished athletes’ who are most likely to experience these two factors together. According to the model, burnout in athletes is the result of stress associated with the creation of a unidimensional identity and a lack of control over one's own life. This ultimately leads to withdrawal which Coakley describes as a standard clinical symptom of burnout. However criticism of this model suggests that Coakley’s conceptualisation of burnout does in fact reflect a form of dropout and not burnout (Cresswell & Eklund, 2006a). Athletes withdraw (i.e. terminate their involvement in sport) rather than remain in an aversive environment. Cresswell and Eklund (2007) argue that as Coakley defined burnout as high achievement followed by withdrawal, he is in fact describing dropout, a possible consequence of burnout but not the only reason for dropout in sport.

_Schmidt and Stein's (1991) Sport Commitment Model._ Schmidt and Stein (1991) advocate a commitment perspective of burnout based upon earlier commitment work by Kelley (1983) and Rusbult (1983). They explain that commitment research aims to gain an understanding of why individuals maintain or
persist in a given course of action. Two types of commitment have been proposed, these include involvement because an individual ‘wants to’ and involvement because they ‘have to’. Raedeke (1997) contends that within the sport context these types of commitment relate to sport involvement that involves sport attraction (want to) and entrapment (have to).

With respect to burnout Schmidt and Stein (1991) initially proposed that there are three primary determinants that influence athlete commitment, and that athletes who experience burnout are committed to sport for reasons that differ from those who do not experience burnout. The determinants of athlete commitment are: satisfaction based on rewards and costs associated with enjoyment; attractiveness of alternative options; and resources athletes have invested in sport. The model asserts that burnout is likely to occur in athletes who display an entrapment profile. This occurs when the athlete experiences high costs and low rewards but remains in the sport because they feel that they have invested a lot in terms of resources, and perceive a lack of attractive alternatives (high investment and low alternatives). This contrasts with the dropout athlete who is not committed to the sport and is likely to withdraw before they burnout.

The perspective has received more recent attention through the work of Raedeke and colleagues (e.g., Raedeke, 1997; Raedeke & Smith 2001), who highlight different commitment profiles which may predispose individuals to burnout. Raedeke (1997) observes considerable similarity between the approaches of Schmidt and Stein (1991) and Coakley (1992) in that they share the contention that athletes who experience burnout doubt the value of sport and feel trapped, stifled or that they are wasting time. The models then diverge however on the role of attractive alternatives. Schmidt and Stein consider a lack of commitment to be an antecedent of burnout, whilst Coakley proposes that athletes prone to burnout perceive other activities to be attractive but are constrained by the social structure of sport.

Raedeke (1997) advocates that a commitment perspective is a viable alternative to a stress perspective of athlete burnout. He also acknowledges however, that it is not in direct opposition to the latter perspective in that athletes who experience entrapment are, as a consequence, likely to find sport stressful. A primary difference that Raedeke promotes between the commitment perspective, and stress a perspective, is that the commitment framework identifies specific conditions under which elevated stress may be assoainted with burnout (i.e. athletes displaying an
Research employing the commitment perspective is discussed in the later section ‘Athlete burnout research’.

Model testing

Research that has systematically tested models of athlete burnout has been limited to date. Gould et al.'s (1996b) qualitative study of burnout in junior tennis players remains one of the only attempts to examine competing models. The authors explored ten cases of athlete burnout using tenants of the models proposed by Smith (1986), Coakley (1992) and Silva (1990). All cases were considered to be best explained through Smith's (1986) model, but this was also attributed to the comprehensive nature of this framework. The other models were also found to be useful in explaining some of the cases of burnout but to a lesser extent. Through the examination of the competing models of burnout at the time, this research made the important conclusion that burnout is a product of the interplay between personality and situational factors. Previously there had been suggestion that burnout was predominantly determined by personality. However, the conclusions made about the relative merits of the specific propositions of each model were fairly descriptive, and their unique contribution to understanding the burnout phenomenon among athlete populations remained unclear.

Since the work of Gould and colleagues (1996b) another theoretical explanation has received notable attention in more recent research efforts, namely Schmidt and Stein's (1991) commitment model. Tom Raedeke has been particularly instrumental in pioneering this approach within studies of both athlete and coach burnout. In a study of burnout among age group swimmers Raedeke (1997) carried out a cluster analysis using commitment profiles based upon the theoretical determinants of commitment (e.g., enjoyment, benefits, costs etc). Four clusters emerged displaying differing commitment profiles (i.e. malcontented – low enjoyment, low benefits, high costs, low investment, and high attractive alternatives; enthusiastic – high enjoyment, high benefits, low costs, high investment, and low attractive alternatives; obligated – average enjoyment, benefits and attractive alternatives, high costs and high investment; and indifferent – average enjoyment, costs, benefits, and attractive alternatives). Levels of burnout were compared between clusters and findings reported that swimmers displaying an entrapment or malcontented profile exhibited highest levels of perceived burnout, and the opposite was observed for enthusiastic swimmers. Based on this research Raedeke advocated...
that a commitment perspective of burnout is appealing as it goes beyond the notion of burnout simply being a response to chronic stress, and captures the uniqueness of the syndrome. Individuals who are involved in sport because they have to, rather than, want to, are likely to burnout.

Although other researchers have made reference to theoretical perspectives in the discussion of their findings (e.g., Cresswell & Eklund, 2006a), there remains a need to systematically test proposed models of athlete burnout in future research.

**Athlete burnout research**

Cohn (1990) and Silva (1990) published the first investigations of burnout in athletes. Cohn conducted a qualitative study that explored sources of stress in High School golfers and whether burnout can be traced to these sources, while Silva examined burnout in relation to physical training. Resultant findings from Silva’s study led to the advancement of the ‘Negative Training Stress Response Model’ (Silva, 1990).

Cohn investigated four main categories of stressors amongst the golfers, these included, competitive, demands and costs, personal struggles and significant other relationships. In athlete responses competitive stressors were the most frequently cited with ‘playing a difficult shot’ and ‘playing up to personal standards’ emerging as the greatest stressors (100%). Relationships with significant others and particularly ‘striving to meet parents expectations’ and ‘striving to meet coaches expectations’ were also reported as significant sources of stress. When examining causes of burnout, ‘too much practice or playing’, ‘lack of fun and enjoyment’, ‘reaching goals and then having nothing to strive for’, and ‘pressure to do well from coach, parents and self’ were identified as the major causal factors. However Cohn’s work has been criticised because of the short time frame employed to define burnout cases (two weeks) and the use of a cross sectional research design in describing causal factors (Kentta & Hassmen, 1998).

Following shortly after Cohn (1990) and Silva (1990), Coakley (1992) published one of the few qualitative studies of athlete burnout. Coakley reported his observations from ‘conversations’ with 15 adolescent athletes on their sport experiences. From his findings he proposed the unidimensional identity development and external control model of athlete burnout.

A study of athlete burnout that is still considered a landmark piece of research in the field was conducted by Gould and colleagues (Gould, Tuffey, Udry
amongst junior tennis players, and it remains one of the most in-depth explorations within the extant literature. The importance of its contribution lays not only in the questions asked but also in the design of the study which has had a significant impact on the advancement of knowledge and understanding. One of the recognised pitfalls of burnout research is locating individuals who have actually experienced the syndrome. By its very nature, burnout dictates that these individuals reach a point where they no longer wish to be part of the activity associated with their feelings of being burned out, and as a consequence choose to withdraw from the activity. Gould and colleagues actively sought out these individuals, and contrasted them with others who had not experienced burnout through a multi-method framework.

The original study was commissioned by the Sport Science Division of the U.S. Tennis Association (USTA). Arising from a prevailing climate of debate concerning the competitive pressures being placed upon junior tennis players, and the consequences of such pressure, the purpose of the study was to identify and describe in psychological terms junior players who had experienced burnout, in contrast to equivalent players who had not experienced burnout. In so doing, the authors intended to learn more about the burnout experience from those who had actually lived with it, together with gathering information to inform future preventative and management strategies.

The study was divided into two phases of investigation. Phase one consisted of the completion of a battery of psychological and social psychological inventories, the results of which were contrasted across the comparative samples in the first article (Gould et al., 1996a). In addition, a sub-sample (n = 10) of burned out players were selected from the findings of phase one to participate in in-depth interviews during the second phase of the study. This part of the study (Gould et al., 1996b) reported physical and mental characteristics of burnout, recommendations for preventing burnout and an examination of three existing models of athlete burnout (i.e., Coakley, 1992; Silva, 1990; Smith, 1986). The article also promoted the novel suggestion of the existence of different types or strains of burnout. Two main strains identified were: “Social Psychologically Driven” and “Physically Driven”. The social psychologically driven strain was the dominant form observed in the study, and comprises two further sub-strains of athlete perfectionism and situational pressure. Physically driven burnout occurred in tennis players who were unable to
meet the physical training demands placed upon them. Gould and colleagues observed that athletes with significant perfectionistic tendencies “perceived higher stress levels and eventually burned out of junior tennis in situations most tennis professionals would not consider very physically or psychologically demanding” (p. 363). Situational pressures that created tremendous psychological stress were essentially generated through the expectations of others, especially parents, and the resulting desire of youngsters “to win in an effort to please others and feel worthy” (p.364). The final article in the series (Gould et al., 1997) presented idiographic profiles of three individual burnout players as case studies of athlete burnout.

Recent research and developments

Although the publication of Gould et al.’s study (1996a, 1996b and 1997) has made a significant contribution to the literature and remains one of the most cited studies to date, there have been a number of important advancements in the field more recently. One of the principle advancements has been the introduction of a multidimensional athlete specific definition of burnout by Raedeke (1997) in which athlete burnout is a “syndrome of physical/emotional exhaustion, sport devaluation and reduced athletic accomplishment” (p.398). This definition has been validated in some exploratory qualitative research (Cresswell & Eklund, 2006a; Raedeke, Lunney, & Venables, 2002) and has been operationalised in quantitative studies (e.g., Creswell & Eklund, 2005a; 2005b) through the development of the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001). A universally agreed definition and valid measurement tool of burnout for use amongst athlete populations have historically been two of the major challenges for the burnout in sport literature (Dale & Weinberg, 1990; Raedeke & Smith, 2001). The work of Raedeke and colleagues therefore (Raedeke, 1997; Raedeke & Smith; Raedeke et al., 2002) has made a crucial contribution in helping the field to move forward towards potential conceptual agreement and more effective assessment of the syndrome.

The advancement of the stress-recovery perspective of burnout (Kallus and Kellmann, 2000; Kentta and Hassmen, 1998) has been another notable development of contemporary research, and has an important role in aiding the attainment of greater conceptual clarity between burnout and the related conditions of overtraining and staleness. In addition, these approaches also have a significant applied emphasis that may aid practitioners in working with athletes. The importance placed upon burnout (and overtraining and staleness) as a combination of psychological,
sociological and physiological factors stemming from both training and non-training stress highlights that it is a phenomenon which is personal and situational in nature. Although Gould et al. (1996b) made this observation more than a decade ago, the stress-recovery perspective provides an approach in which both the characteristics of the athlete and the environment (in which the athlete lives) can be considered in combination. The RESTQ-Sport instrument developed by Kallus and Kellmann (2000) has supported the monitoring and identification of incidences of stress and under-recovery in the lead up and during major competitions (Kellmann & Gunther, 2000). It has also been used to assess the effects of a yearly training schedule (Kellmann, Altenburg, Lormes, & Steinacker, 2001) and to provide concrete recommendations for intervention strategies (Kellmann & Gunther, 2000). Research employing a marker of staleness proposed originally through the work of Kentta and Hassmen (1998) has helped to identify cases of staleness and burnout (Kentta et al., 2001). The marker “[experience of] a significant performance decrement that persisted for at least two weeks, and that without doubt was caused by physical training (i.e., not by illness or injury)” (Kentta et al., 2001, p. 461) again has applied relevance to practitioners and athlete monitoring their own responses to training.

Finally, through a funded research project exploring burnout in professional rugby players in New Zealand, Cresswell and Eklund (2003; 2004; 2005a; 2005b; 2006a; and 2006b) have made a notable contribution to the empirical base within a relatively short period of time. Their work has focused on further validation of Raedeke's (1997) conceptualisation of athlete burnout (e.g., Cresswell & Eklund, 2006a) and the ABQ (e.g., Cresswell & Eklund, 2006b), and identification of key characteristics associated with each dimension and early warning signs, symptoms and consequences (e.g., Cresswell & Eklund, 2003; 2006a). They have also proposed that Self-Determination Theory (SDT) (Ryan & Deci, 2000) may provide an encompassing perspective for understanding burnout (Cresswell & Eklund, 2006c). This suggestion was originally proposed by Gould et al. (1996b) but it is Cresswell and Eklund who have taken up the helm in investigating the application of SDT to athlete burnout. The authors of SDT Deci and Ryan, assert that the basis of human well being is the satisfaction of three basic needs (i.e., autonomy, competence and relatedness), and that conversely, a state of ill-being (e.g., depression) is the result of chronic failure to meet these needs (Ryan & Deci, 2000). Cresswell and Eklund (2006c), suggest that burnout may result from a perception of chronically unfulfilled
needs. Empirical evidence has emerged supporting a relationship between self-determination and burnout (Cresswell & Eklund, 2005) but further research is needed to extend understanding of this relationship and its implications for athlete burnout.

Research rationale

Why study burnout?

Within the work context burnout is employed as a diagnosis on medical certificates (Hallsten, 2005), and is considered to be “a major public health problem and a cause for concern for health care policy makers” (Shirom, 2005, p.263). In the Netherlands, Bekker and colleagues (Bekker, Croon, & Bressers, 2005) observe that with regard to sickness related absenteeism, burnout is the most prevalent diagnosis in the category of ‘psychological health problems’. In the athletic setting there has been growing concern that the demands placed on young athletes have intensified considerably in recent years, and that the competitive pressures experienced by these athletes may lead to discontinued sport involvement, and increased incidence of athletic burnout (Gould & Dieffenbach, 2002; Holt, 2007). Much of this concern stems from shared beliefs that young athletes train too much, take part in too many competitions, focus entirely on one sport at too young an age, and continually have to learn to cope with pressure from parents and coaches (Coakley, 1992; Feigley, 1984; Gould et al., 1996a; Gould, 1997; Harlick & McKenzie, 2000). Consequences associated with burnout in the sport domain are not only limited to discontinued involvement but also include the lack of fulfilment of human potential and curtailment of athletic development (Feigley, 1984), physical and psychological decrements in performance (Gould et al., 1996b; Cresswell & Eklund, 2003; 2006a), lowered performance standards (Feigley, 1984), anxiety (Vealey, Armstrong, Comar, & Greenleaf, 1998), mood disturbance (Tenebaum, Jones, Kitsantas, Sacks, & Berwick, 2003) interpersonal difficulties (Cresswell & Eklund, 2006a; Udry et al., 1997), and debilitating effects on general health and well being (Coakley, 1992; Dale & Weinberg, 1990; Harlick & McKenzie, 2000; Kentta et al., 2001).

With such significant implications to both athletic performance and personal well-being, it seems reasonable to assume that athlete burnout would be a well researched area. However, what emerges in reality is a relatively under-researched and poorly understood phenomenon (Raedeke, 1997; Creswell & Eklund, 2006a). This in itself has been strong motivation underpinning this thesis but alongside this is the fact that to date there has been no published research that has examined burnout
Sir Clive Woodward in his autobiography ‘Winning’ (2004) describes what he believes to be a fundamental factor that has limited the success of British national teams in international competition, the ‘Corinthian Spirit’. Woodward explains that the Corinthian Spirit has been central to the prevailing culture of English sport for centuries and emphasises ‘participation’, and that the prize of participation is not necessarily victory but rather the ‘spirit of the game’ and ‘how it is played’. There does however, appear to be a cultural shift underway in competitive sport in Britain. This shift is in pursuit of winning. Woodward suggests the move of rugby from an amateur to a professional sport resulted in a massive transformation felt at the grass roots level of rugby, right the way through to the organisational level of the Rugby Football Union, and that this underpinned England’s Rugby World Champions title in Sydney in 2003. The introduction of Lottery funding in 1997 and the allocation of that funding on the basis of performance accomplishment and the attainment of positions on the medal podium in particular, has been another significant feature of the cultural shift. With the success of the London 2012 Olympic bid and the target of finishing 4th in the Olympic medal table, the quest for sporting success by British athletes is intensifying. The flip side to this cultural change however, is the implications of these performance demands on athletes. There is expectation for a return on the financial investment in athletes, and also public expectation propagated through media interest. Therefore, with rising pressure and expectation, it could be suggested that a climate is emerging in which athletes may become increasingly vulnerable to physical and psychological overload, and conditions such as burnout. Research examining the burnout phenomenon among UK athletes may serve to reduce its incidence.

*Philosophical approach*


> The word philosophy used to turn me off. Nothing seemed more impractical than philosophy, and I see myself as a practical person. But I have learned that nothing is as practical as a well developed philosophy about life and about coaching. My philosophy guides me everyday: it helps me interpret the events in my life and it gives my life direction. The word philosophy to me means the
pursuit of wisdom; it helps me answer fundamental questions about what, why and how. (Martens, 1987, p.3)

In his statement Martens suggests philosophy is the pursuit of wisdom but also the practical application of that wisdom in daily life. More recently Martens gave a Coleman Griffith keynote address at the American Association for the Advancement of Applied Sport Psychology (AAASP) in Vancouver in 2005 entitled ‘Does Sport Psychology Matter?’. In the lecture he offered personal reflections on his experiences of working in sport psychology, and outlined some of the challenges confronting applied and research based psychologists in the area. He described that the major challenge for sport psychologists to become more effective, was how to pull together theoretical and conceptual research into practice. He suggested that this could be facilitated by more applied research, and a greater variety of research questions that are driven by practical issues. Martens ‘practical’ approach to sport psychology is not something new to the discipline but the observation has been made that increasingly the gap between research and practice has grown (Vealey, 1994; Weinberg & Gould, 2003). From the origins of sport psychology research that are generally associated with the work of the founder father of North American sport psychology Coleman Griffith (Green, 2003), a fundamental role of the sport psychologist that has been encouraged is to make research communicable to coaches and athletes for use in the athletic environment. An observation made of the professional burnout literature is that the emphasis has sometimes been too research driven at the expense of application. Cox and colleagues (Cox, Tisserand, & Taris, 2005) remind researchers

“It is clear that for a long time to come, researchers will continue to be interested in the nature and measurement of burnout. However, as occupational health psychologists we must not lose sight of the ultimate goal, which is its [burnout] prevention, its treatment and the rehabilitation into the workplace of people who have been severely burned out” (p.190)

This thesis is driven by the practical issues of the prevention and management of burnout among athletes. To this end, its philosophical position is one of theory into practice extending existing research to enhance the knowledge and understanding of the syndrome, so that this may in turn guide and inform future intervention strategies, as well as raising awareness of coaches and other support services and athletes towards potential burnout. Langeveld (1965) suggests that research enhances knowledge not only to enable action but for that action to be better.
Educational studies...are a 'practical science' in the sense that we do not only want to know facts and to understand relations for the sake of knowledge, we want to know and understand in order to be able to act and act 'better' than we did before (p.11).

**Aims and structure of the thesis**

The development of burnout research within both the sport and professional setting has been plagued by considerable anecdotal conjecture and conceptual confusion. The popularity that burnout has attracted appears to have been more of a hindrance than a help, and the eagerness to undertake research without clear conceptual underpinning led to early work that lacked scientific rigor (Leiter, 1993; Schaufeli & Enzmann, 1998; Schaufeli & Buunk, 2003). Unfortunately issues concerning the nature and measurement of burnout still exist today and will continue to do so for some time to come (Cox et al., 2005). With this backdrop to the field of burnout one of the broad objectives of the research programme was to examine the literature to determine, simply, what is known about burnout in athlete populations, and what do we still need to know? A second objective was to extend understanding of burnout as a syndrome among athletes, through the exploration of burnout as a process.

- In order to achieve the first objective an analysis of the burnout in sport literature was undertaken through a systematic review process (Study One). The outcome of the review was a consolidation of existent research findings, and the identification of gaps within the empirical knowledge base and avenues of future research. A significant observation to emerge was the extrapolation of Maslach and Jackson’s (1981) three dimensional conceptualisation of professional burnout (e.g., emotional exhaustion, depersonalisation, and reduced accomplishment) from the work context to the sport setting in coach burnout research initially, and more latterly, athlete burnout research (Raedeke, 1997). In relation to athlete burnout specifically, the introduction of this conceptualisation has represented a significant advancement, both in terms of the potential for a consensus in conceptual thinking, and its operationalisation through the development of the Athlete Burnout Questionnaire (Raedeke & Smith, 2001). However thus far, this conceptualisation has also perpetuated conceptual thinking of burnout as a state, rather than also by the chronic process which precedes the state (Pines, 1993). Such an approach limits an appreciation of how burnout manifests, and logically, how it might be prevented.
Process models of burnout which attempt to explain how the syndrome manifests over time have been advanced, and generally focus on the inter-relationships between the three dimensions of burnout as the central mechanism underpinning the process. With the purpose in mind of exploring how the dimensions of burnout are inter-related across time as predicted by established process models, and to identify potential individuals experiencing burnout (i.e., burning out), a longitudinal research design was employed in Study Two. As a consequence of findings that emerged from Study Two and methodological issues which rose during the research process, the final phase of the research programme focused explicitly on furthering understanding of the three dimensions of burnout, and how they are inter-related through the experiences of athletes who have lived with the syndrome (Study Three).

Chapter Two (Study One) presents a systematic review of the burnout in sport literature. Specifically the review provides a summary of the types of populations in which burnout has been explored (sample characteristics), correlates of burnout, and research designs employed. Conceptual and methodological issues and gaps within the literature are also discussed. Results of study one helped to direct the focus of both study two and three.

Chapter Three (Study Two) presents the findings of a longitudinal study of athlete burnout examined across an athletic season. The aim of the study was to explore burnout as a developmental process by testing three process models using path analysis. Opportunities for intervention and management of burnout were also discussed, and results were used in the development of study three.

Chapter Four (Study Three) focuses on a qualitative study that sought to extend research on the key characteristics and manifestations of athlete burnout, through the exploration of the experiences of athletes who have lived with the syndrome. The study was divided into two phases. In the first phase manifestations of the three dimensions of burnout were examined, and in the second phase, inter-relationships between dimensions were investigated. Contextual differences in burnout between the sport and work settings were discussed.

Chapter Five summarises the major findings of the programme of research. The theoretical and practical implications of the research are discussed in addition to limitations, delimitations, methodological considerations, and future research directions.
Chapter Two

Study One: A systematic review of burnout in sport
Abstract

The purpose of this systematic review was to provide an up to date summary of the burnout in sport literature. The last published reviews were in 1989 (Fender) and 1990 (Dale & Weinberg). In order to gain an appreciation of the status of current knowledge and understanding, and to identify potential future directions, a synthesis of published work was conducted using a systematic review methodology. Findings comprised three sections: sample characteristics; correlates; and research designs and data collection. A total of 58 published studies were assessed, the majority of which, focused on athletes (n = 27) and coaches (n = 23). Correlates were grouped into psychological, demographic and situational factors and were summarised as positively, negatively, indeterminate and non-associated with burnout. Self report measures and cross sectional designs have dominated research. The review concludes
by summarising the key findings across the literature and existing gaps that may be met by future research.

Introduction

In 2001, a special issue of the journal *Psychology and Health* was devoted to a review of research examining burnout in professional contexts. The principal aim of the special issue resonated in a question posed by Christina Maslach's in her concluding commentary: What have we learned about burnout and health? Although several book chapters have been written that provide more recent summary overviews of burnout research in sport settings (Goodger, Lavallee, Gorely, & Harwood, 2006; Gould & Dieffenbach, 2002; Kallus & Kellmann, 2000), the last published empirical reviews were by Fender (1989) and Dale and Weinberg (1990). At the time of publication of the reviews there were no empirical studies of athlete burnout (Dale & Weinberg, 1990) and research had primarily focused on burnout in practitioners such as coaches. The 1990s saw a shift to more investigations exploring
burnout amongst athletes, and a number of studies which are now considered to be classics within the field emerged (e.g., Gould, Tuffey, Udry & Loehr, 1996a and b, and 1997). In the future directions of the Fender (1989) and Dale and Weinberg (1990) reviews, the authors converge on a number of key issues they believe to be significant in moving the field forward. These can be summarised as: a) Agreement on an operational definition of burnout; b) Development of measurement tools / strategies for assessing burnout amongst athletes; c) Development of theoretical frameworks to explain burnout within sport; and d) Development of intervention strategies. There have been several advances in relation to these points, and hence due to the length of time since the previous reviews and the advancements that have occurred, it is important for sport psychology to revisit the question: What have we learned about burnout and sport? The purpose of the current study therefore was to conduct a systematic review of the sport burnout literature with a particular focus on examining the populations in which burnout has been explored, questions asked and research strategies employed. Similar systematic reviews and meta-analyses have been conducted within the professional literature (e.g., Fothergill, Edwards, & Burnard, 2004; Lee & Ashforth, 1996) and through this type of review process, have offered the opportunity to consolidate findings and identify the known from the unknown (Munroe, 1999). Specifically, the review aims to provide a summary of sample characteristics, correlates, and research designs employed up until 2005.

Method

Sources

The search strategy used the following three main sources to locate published studies of burnout in the sports setting: 1) Electronic searches of computerised databases, including SPORTdiscus, PsychLIT, First Search, Web of Science, Zetoc, Medline and BIDS; 2) Citations in papers identified by the electronic searches; and 3) Hand searching of journals, including The Sport Psychologist, International Journal of Sport Psychology, Journal of Applied Sport Psychology, Journal of Sport & Exercise Psychology Journal of Sport Behaviour, Medicine and Science in Sport and Exercise, Journal of Sports Sciences, Research Quarterly in Sport and Exercise, Journal of Sociology of Sport, and Quest. Keyword combinations used included burnout, overtraining, staleness, stress, motivation, drop out, exhaustion, athlete, coach, director, administrator, official, sport, exercise, and physical activity. Inclusion criteria were that articles must be published in the English language, and
contain data specifically pertaining to burnout.

**Procedure**

Hard copies of publications were obtained and assessed for relevance according to the inclusion criteria. Once included, analysis of the studies followed the descriptive, semi-quantitative review protocol outlined in Sallis, Prochaska, and Taylor (2000). Studies were initially coded with a bibliography number, and as independent samples \((k)\) were used as the unit of analysis, additional coding further distinguished samples such as male and female \((M \text{ and } F)\) and age group \((e.g., 22, 30)\). Data tables were constructed for sample characteristics of study populations \((e.g., \text{nationality})\), correlates of burnout, and research designs.

**Analysis**

Data tables were analysed to create summary tables. This involved a number of stages. Firstly, variables were selected and categorised based upon the recommendation that, for a correlate to be identified and an association determined, there must be three or more comparisons available \((i.e., \text{they had appeared in three or more studies or independent samples})\). Secondly, the direction of associations were examined. Independent samples for each correlate were assessed and coded positive \((\text{coded as } +)\), negative \((\text{coded as } -)\) or no association \((\text{coded as } 0)\) with burnout, and indeterminate \((\text{coded as } ??)\) when the nature of the association was unclear. Finally, a summary of the literature for each correlate was determined through a calculation of the percentage of independent samples supporting associations. Sallis et al. (2000) outline the following classification system as a means of coding results: \(0-33\% = \text{no association}; 34-59\% = \text{indeterminate/inconsistent}; \text{and } 60-100\% = \text{positive/negative association.} \) Sample characteristics \((i.e., \text{age, gender})\) were summarised using a tallying system and resulted in total counts.

Considerable debate continues concerning the inclusion of qualitative research studies in systematic reviews \((Dixon-Woods \& Fitzpatrick, 2001)\). Booth (2001) proposes that meta-synthesis, the science of ‘summing up’, can be either quantitative or qualitative, but to date, the criteria for a “good” review exhibits “institutionalised quantitativism” in that it is almost entirely determined by quantitative methods. Due principally to the limited number of qualitative studies published, it was decided to integrate data from these studies with that of the quantitative part of the analysis. In an attempt to combat the potential reduction in the richness of qualitative data associated with quantitative synthesis \((Weed, 2005)\), a narrative summary section
was provided. An indication of the direction of association between variables explored in these studies and burnout is also given through the symbols positive (+), negative (-), no association (0) and indeterminate (?)

Results

General findings

The review identified 61 published studies. Three were later excluded due to a lack of burnout data resulting in a final count of 58. Twenty-seven focused on athletes, 23 on coaches, two on athletic directors, two on athletic trainers, three on officials and one on job satisfaction of sport center employees. Two studies (viz. Price & Weiss, 2000; Vealey, Armstrong, & Comar, 1998) reported findings for both athletes and coaches. Although these studies have been incorporated only once in the total count of burnout studies (n = 58), they are included in the total counts for athlete (n=27) and coach studies (n=23), as they present separate data relating to each population group. Due to the limited number of studies examining burnout among athletic directors, athletic trainers, officials and sport center employees, findings of these studies are not discussed further. The results of the review are, therefore, presented as two separate categories of Athlete Burnout and Coach Burnout, and are divided into: sample characteristics; correlates; and research designs.

Sample characteristics of athlete and coach burnout studies

The examination of sample characteristics enabled the review to gain a picture of the types of individuals who have been investigated in research, and potential gaps within sampling.

Sample characteristics of athlete burnout studies

Studies examining burnout among athletes comprised a total population size of 2448, and 22 independent samples were identified. The number of independent samples was reduced to lower than the total number of studies (27) because multiple papers were published using data from the same original sample groups (viz. Gould et al., 1996a, 1996b, 1997; Raedeke, 1997; Raedeke & Smith, 2001, study 1 and 2; Raedeke & Smith, 2005 & Udry, Gould, Bridges, & Tuffey, 1997). Samples tended to be mixed gender and included athletes from a range of competitive levels and types of sport, although individual sports have received greater attention. North American samples have historically dominated the literature but more recently samples have begun to emerge from Europe and Australasia. See Table 1 for a
summary of sample characteristics.
Table 1: Summary of sample characteristics of athlete burnout studies

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Biblio. No</th>
<th>No. (%)</th>
<th>Characteristic</th>
<th>Biblio. No</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
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<td><strong>Sample Size</strong></td>
<td></td>
<td></td>
<td><strong>Competitive level</strong></td>
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<tr>
<td>&lt;20</td>
<td>2, 3, 8*, 9*, 11, 12, 25, 26*</td>
<td>5 (22.7)</td>
<td>High School /</td>
<td>3, 16, 17, 21, 24, 27</td>
<td>6 (27)</td>
</tr>
<tr>
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<td>10</td>
<td>1 (4.6)</td>
<td>College</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-100</td>
<td>1, 7, 13, 16, 24</td>
<td>5 (22.7)</td>
<td>Club (Non-Prof)</td>
<td>5, 18, 19*, 20, 22*, 23</td>
<td>4 (18.2)</td>
</tr>
<tr>
<td>101-200</td>
<td>4, 6, 15, 17, 27</td>
<td>5 (22.7)</td>
<td>Elite - Nat/internal/</td>
<td>1, 3, 4, 6, 7, 8*, 9*, 11, 12,</td>
<td>10 (45.5)</td>
</tr>
<tr>
<td>201-300</td>
<td>14, 18, 19*, 20, 21, 22*, 23</td>
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<td>Olympic/Professional</td>
<td>14, 15, 25, 26*</td>
<td></td>
</tr>
<tr>
<td>301+</td>
<td>5</td>
<td>1 (4.6)</td>
<td>Non identified</td>
<td>2, 10</td>
<td>2 (9.2)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td><strong>Country</strong></td>
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<td>3 (13.8)</td>
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<td>6 (27)</td>
<td>19*, 20, 21, 22*, 24, 26*</td>
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<td></td>
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Sample characteristics of coaching burnout studies

The 23 studies of coach burnout located comprised a total population of 6460 and 41 independent samples. Demographic information detailed in coach burnout studies has generally been reported less consistently than in athlete studies, which has limited the ability of the review to provide a summary of these factors. The relationship between burnout and gender has been examined more specifically within coach research, and hence sampling has shown a greater tendency to separate genders enabling comparisons between them not paralleled in athlete research. Again a range of competitive levels and types of sports have been examined but there is a notable absence of elite coaches. Furthermore there are only two studies that have been published with non-North American based samples (viz. Koustelias, Kellis, & Bagitis, 1997; Omotayo, 1991). See Table 2 for a summary of sample characteristics.

Correlates of burnout

Three main types of variables were examined in the studies reviewed, these were; psychological (athlete = 41; coach = 20), demographic (athlete =12 and coach = 20) and situational (athlete = 19; coach = 20). In applying Sallis et al.’s (2000) recommendation of a minimum of 3 studies/ independent samples for the identification of correlates, the number of actual correlates to emerge was significantly reduced however (see Table 3). (Contact lead author for full list of variables).

Psychological correlates of athlete burnout

Analysis of the 41 psychological factors in athlete studies resulted in 13 correlates, that comprised five themes: motivation; coping with adversity; response to training & recovery; role of significant others; and identity (See Table 3).

Motivation. The theme motivation incorporated motivation, enjoyment and perceived control. Motivation studies examined ‘types of motivation’ and ‘motivational loss’. Amotivation was positively associated with burnout (100%), and intrinsic motivation negatively (100%). These trends were also consistent when examining motivation in relation to the three dimensions of burnout (i.e., PEE, RA and DV). The pattern for extrinsic motivation was less clear, but generally ranged from no association to small negative associations. In studies that did report a negative association, this was in most instances with RA. Examination of enjoyment reported moderate / strong negative associations (100%), and with strongest associations being recorded for DV (100%). Athletes who felt in control and
experienced greater autonomy reported lower burnout (100%). This negative association held true for each dimension in studies by Raedeke (1997) and Cresswell and Eklund (2004), which specifically examined perceived control in relation to each dimension.

Coping with adversity. Anxiety, perceived stress, and coping were grouped under the coping with adversity theme. In studies that reported anxiety in relation to the three dimensions (k = 3), associations were positive for each one. Investigations by Tenebaum, Jones, Kitsantas, Sack and Berwick (2003), Raedeke and Smith (2001, study 3), Price and Weiss (2000), and Vealey, et al. (1998), all suggested higher levels of trait anxiety predisposed athletes to the risk of burnout. Studies exploring perceived stress have traditionally included measures of general stress (e.g., Perceived Stress Scale; Cohen, Kamarck, & Mermelstein, 1983). More recent research however (e.g., Jurimau, Maestu, Purgem Jurimae & Soot, 2002; Kellmann, Altenberg, Lormes, & Steinacker, 2001; Kentta, Hassmen & Raglin, 2001), has begun to employ a multifaceted conceptualisation of stress to include general, emotional and social stress, and both training and non-training stress. In all studies (k = 8) stress was positively associated with burnout (100%). However, the relationship between different types / sources of stress and the dimensions of burnout has received little attention.

Coping was negatively associated with burnout in all studies (100%). Those athletes equipped with stronger coping resources were found to be better able to handle the demands placed upon them, and were subsequently less susceptible to burnout. To date the research has not identified specifically the type of coping strategies that might help safeguard an athlete from burnout, or the relationship between coping and different dimensions of burnout. Raedeke and Smith (2005) sought to explore how coping resources influenced the relationship between stress and burnout. They examined competing hypotheses that coping resources have a stress mediating relationship versus coping resources are stress-moderating and concluded that the relationship was stress-mediating. That is where burnout is influenced indirectly through the impact of coping resources on stress.

Responses to training and recovery. Responses to training and recovery is a relatively recent thrust of research, it is not however, entirely new. The impact of training on the incidence of burnout has long been examined in the physiological literature, and was first introduced explicitly to the burnout in sport literature through
Silva’s (1990) negative training response model. Monitoring of training and overtraining has previously largely been based on the Profile of Mood States (POMS; McNair, Lorr & Droppleman, 1971). A positive mental health profile is associated with successful athletic performance, while mood disturbance and a negative profile are indicative of overtraining (Kellmann & Gunther, 2000). The review identified 3 studies (k = 3) that have examined recovery and burnout, and 4 studies (k = 4) exploring mood. Recovery was shown to be negatively associated with burnout (100% samples), and mood disturbance positively (100%).

Role of significant others. Significant others who have been examined within the context of athlete burnout include coaches and parents. Limited attention, however, has focused on other social groups such as peers and team-mates. Findings on the impact of coach and parent behaviour on athlete burnout have been mixed, and an association is indeterminate. Studies have generally reported on the association between significant others and burnout, and not the interaction. Where the interaction is reported it emerges that these individuals may act as potential buffers who are able to moderate demands placed on athletes by acting as much-needed sources of social support (Udry et al., 1997). Equally, unrealistic expectations, criticism, and pressure to perform vocalised by coaches and parents are potential stressors. Studies (k = 5) providing data on the association between social support and the three burnout dimension, reported negative associations between social support and PEE (100%) and RA (100%), and DV (75%).

Identity. Identity has been explored in 3 studies (k = 3), but insufficient information exists to determine an association. What the literature does reveal, however, is a potentially positive association. Gould and colleagues (1996a, 1997) report higher mean athletic identity scores for tennis players who have experienced burnout when compared to non-burned-out players, although this difference was not statistically significant. Through his qualitative research which led to the publication of the Unidimensional Identity Development and External Control Model, Coakley (1992) adds further support to the association between higher burnout levels and higher athletic identity. Raedeke (1997) however, found a negative relationship between identity and each of the burnout dimensions.

Demographic and situational correlates of athlete burnout.

Few repeated examinations of demographic or situational variables have been undertaken in athlete studies. As a result the review only identified one potential
situational correlate (training load/volume) and no demographic correlates. With the exception of a study by Gould et al. (1996a & b) all other studies (Kellmann, Altenberg, Lormes & Steinacker, 2001; Kentta, Hassmen & Raglin, 2001) (k = 2) reported a positive association between training load/volume and burnout (66%).

**Qualitative athlete burnout research summary**

The review identified 7 studies that have employed a qualitative approach (K = 5). For amotivation (+), extrinsic motivation (?), intrinsic motivation (-), coping (-), perceived stress (+), perceived control (-), social support (-) and parental influence (?), qualitative associations were similar to quantitative. Cohn’s (1990) examination of stress and burnout in high school golfers, and Coakley’s (1992) exploration of the burnout experiences of young athletes are the only entirely qualitative studies; other research has employed mixed method approaches. Qualitative methods as a whole, remain relatively under-utilised.

**Psychological correlates of coach burnout**

Four psychological correlates of coach burnout emerged from a possible 20. Perceived stress (100%) was positively associated with burnout, while commitment (100%) and social support (75%) were negatively associated. In the three studies (k = 4) examining coach/leadership behaviour and burnout, different instrumentation were used to assess types of behaviour. This made it difficult to compare findings and as a result is was not possible to determine an association.

**Demographic correlates of coach burnout**

Six demographic correlates of coach burnout emerged, including gender, age, marital status, experience, and type of sport. The ability of the review to draw useful conclusions was however limited, by a lack of sufficient data and inconsistency in the quality of reporting in some studies.

The findings for gender are mixed but a general trend emerges that female coaches experience higher EE (73% females higher, 0% males higher, 27% no gender difference) than male coaches. The situation is less clear for RPA with a larger percentage of samples indicating no gender differences (60% no difference). Where differences were reported, females expressed greater RPA (40% females higher; 0% males higher). A lack of a significant gender difference is also the main outcome for the DP dimension (73% no difference). For age, experience and marital status findings were also mixed, and associations were either indeterminate or there was no association. Although the pattern of association for age is indeterminate/not
related at present, there is some evidence of burnout levels being higher in younger coaches (40% samples), which is consistent with the professional literature (Schaufeli & Buunk, 2003). Examinations of types of sport were also inconclusive (57.1% positive & 42.9% no association).

**Situational correlates of coach burnout**

Three situational variables emerged as correlates of burnout; coaching issues (e.g., timetabling and budgets), role conflict, and perceived success (including win/loss record). Both coaching issues and role conflict were strongly positively associated (100%) and were linked to levels of perceived stress reported by coaches. Perceived success (50%) was indeterminate.

**Qualitative coach burnout research summary**

Two studies (viz. Drake & Herbert, 2002; Quigley, Slack, & Smith, 1987) have employed mixed method approaches, which incorporated qualitative tools. Quigley et al. sought to examine levels of burnout and its relationship to the following factors amongst secondary school teacher coaches: social support (-); gender (+) (females scored higher); age (-); size of school (-); compensation (lack of) (+); recognition (lack of) (+); rewards (lack of) (+); marital status (single) (+); perceived success (-); role conflict (+); and role ambiguity (+). Drake and Herbert examined the stress-burnout relationship through detailed case studies of two female teacher-coaches. Specifically they explored the teachers’ perceptions of stress and burnout, factors influencing these perceptions, and coping strategies employed. Role conflict was a major source of stress and was discussed in relation to both inter and intra-role conflict. Inter-role conflict refers to conflicting professional demands (i.e., number of sports coached) whereas intra-role conflict concerns conflicts in other life domains (i.e., home). Other contributory stress related factors included a cyclical pattern associated with the school year, characteristics of the school, and work: life balance. Effective coping strategies included sources of social support, personal releases, organisational skills and mentors.

**Research designs**

*Research designs of athlete burnout studies.* Table 1 displays a summary of data collection and research designs employed in athlete studies. The dominant research tool is the self-report measure (91%), and 8 different instruments of this nature have been used. As the athlete burnout literature comprises only 27 studies the large number of instruments used relative to this narrow empirical base, reduces the scope
for comparisons across research. Interviews are the second most used method occurring in 7 studies (18.2%), and thus far has generally been as part of a mixed method approach.

Two new instruments that have begun to gain popularity are the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001) and RESTQ-Sport (Kellmann & Kallus, 2000). Adopting Maslach and Jackson’s (1984) tridimensional conceptualisation of burnout, the ABQ measures PEE, RAA and DV. Research employing the ABQ has reported acceptable internal consistency (Cresswell & Eklund, 2004; Raedeke & Smith, 2001). The RESTQ-Sport (Kellmann, & Kallus, 2000) is designed to measure the frequency of stress and recovery activities in athletes through a multifaceted framework of emotional, cognitive, behavioural/performance, social and physical aspects of both stress and recovery over a 3-day recall period (and is based on the Stress-Recovery Model proposed by Kallus & Kellmann, 2000). The burnout dimensions of emotional exhaustion and personal accomplishment form two subscales of the instrument, but devaluation is not included. High test-retest reliability has been consistently demonstrated over the 3-day period (Kellmann, et al., 1997; Kellmann & Gunther, 2000).

The majority of research has been cross-sectional (72.7%) and correlational. Longitudinal work undertaken has varied significantly in the timeframes for data collection (6 days to 1 year). Experimental designs have been utilised in investigations examining responses to training and recovery in relation to burnout (i.e., Tenenbaum et al., 2003) but to date there has been limited use of such methods.

Research designs of coach burnout studies

Self-report measures have been equally prominent in coach burnout studies (95.1%). In 95.4% of samples the MBI (Maslach & Jackson, 1981) has been the instrument of choice, and through the advancement of newer versions including the MBI-General, some of the earlier contextual limitations appear to have been overcome (Maslach & Jackson, 1984). The literature is inconsistent however in detailing the versions of the scale used or procedures followed for calculating and reporting burnout scores, which again hinders opportunities for comparisons across studies. Use of qualitative approaches, as with athlete studies has been highly limited (e.g., Drake & Herbert, 2002; Quigley, Slack, & Smith, 1987) and again has been incorporated into a mixed method approach following initial quantitative
screening, which is utilised to select individuals for interview. There are no entirely qualitative studies to date. Following trends in athlete research, most studies (92.7%) have been cross sectional and correlational. Drake and Herbert (2002) carried out multiple interviews over several months, but did not examine changes in burnout over time. Kelley (1994) and Raedeke (2004) are the only published longitudinal studies. Kelley examined changes in burnout at time 1 (early season) and time 2 (late season) and reported higher levels at time 2. In a 1 year follow up study, Raedeke (2004) elected to only employ the EE dimension in examining commitment and burnout. Findings indicated a positive correlation between entrapment and feelings of EE.

Discussion

The review identified 58 studies, the majority of which have focused on coaches and athletes. Early interest focused largely on coaches until the 1990's, when Cohn (1990) and Silva (1990) offered the first athlete investigations. Although a burgeoning body of research, the empirical base remains small. This point is even more significant when we consider that the professional literature now boasts more than 6000 publications (Schaufeli & Buunk, 2003).

Sample characteristics

Whilst interest in athlete research has begun to emerge in Europe and Australasia the dominance of North American samples has restricted opportunities for cross-cultural comparisons which could aid the generalisability of findings. Research from the professional literature report significant cultural differences in the levels of burnout observed, together with factors associated with its incidence (Maslach, Schaufeli, & Leiter, 2001; Schaufeli & Enzmann, 1998). A further sampling issue is the exploration of burnout within specific populations as defined by demographic factors such as age, type of sport or competitive level. There is a cautionary note worthy of mention at this juncture however, that is, it is not the demographics of such populations that contribute to burnout but rather the social environment around them. Mirroring professional research, sport psychology has tended to treat demographic variables as potential causes or consequences of burnout, when they are in fact, neither. As an example, age does not cause burnout but rather conditions associated with it such as personal experiences and life stage, contribute to feelings of being burned-out (Schaufeli & Enzmann, 1998). Empirical investigations of targeted groups could play an important role in the identification of
those ‘at risk’ and the development of prevention and management strategies.

Two final but related points on sampling are accessibility of samples and the ‘healthy worker effect’ (Schaufeli & Enzmann, 1998). Ease of access to samples is an issue shared with the professional literature. In the sport literature this is most evident for coach studies where predominantly coaches from an education related context (i.e., High School, College etc) have been investigated (and where researchers may have their best links). There is a notable absence of elite coaches. Access to samples is also complicated further by the ‘healthy worker effect’. Schaufeli and Enzmann (1998) explain that this is a pitfall of burnout research and essentially concerns the use of samples that may not in fact contain participants who have experienced burnout (because these individuals are likely to have left the sport/activity already). The authors further propose that this leads to underestimation of the syndrome. Prevalence data is highly limited within the sport domain but Gould and Dieffenbach (2002), using data from Raedeke’s (1997) study, concluded that 1-5% of the sample (n = 236) experienced burnout. Although an issue related more to research designs, the challenge of locating those experiencing burnout, is further exacerbated by the correlational group comparison nature of the majority of sport burnout research. Such reporting means ultimately, that affected individuals may become lost in the crowd and with it, the actual burnout experience.

Collectively these sampling issues necessitate more purposeful sampling in future research to both enhance understanding and the generalisability of findings but also, and perhaps more crucially, to ensure research is actually examining individuals who have experience of burnout

Correlates of burnout in sport

The three groups of correlates identified by the review (i.e., psychological, demographic and situational) display similarity to those reported in the professional literature. Researchers within the professional context describe four main groups of correlates: biographical (e.g., age); personality (e.g., hardiness); work related attitudes (e.g., high expectations); and work and organisational (e.g., workload) (Schaufeli & Enzmann, 1998). Across athlete and coach studies it becomes apparent however, that there is a divergence in the emphasis of the research investigating these two populations. Amongst athletes, burnout has been examined much more as an individual psychological phenomenon, whilst coach research has tended to align more closely with the foci of the professional literature. Situational factors have been
examined as the primary correlates of burnout within the work context for the last 25 years (Maslach, Schaufeli, & Leiter, 2001), and a psychosocial perspective has been prominent in driving research forward. Although from early athlete burnout studies there has been a psychosocial thread (Coakley, 1992; Gould et al., 1996a, 1996b, 1997), and more recent research has begun to adopt this perspective (e.g., Cresswell & Eklund, 2004; Kentta, Hassmen & Raglin, 2001; and Price & Weiss, 2000), the relationship between the athlete’s environment and burnout remains underresearched. The proposition here however, is not simply to move away from a dispositional approach where burnout might be considered a personality weakness or a result of an aversive environment, but instead to investigate the interplay between these factors?

With regard to psychological correlates of athlete burnout, research over the last decade in particular has contributed much to the knowledge base. Typically athletes experiencing burnout are characterised by motivational loss shown as reduced intrinsic motivation or amotivation, a lack of enjoyment, possession of poor or ineffective coping skills, high perceived stress and anxiety, and mood disturbance associated with responses to training and non-training stress and insufficient recovery. They perceive low social support with significant others acting as either potential stressors, or buffers against stress. Research examining athletic identity is limited but there is indication of a positive association with burnout. Considerably less is known about psychological correlates of coach burnout but what does emerge is that it is associated with higher levels of perceived stress related to situational factors such as coach issues and role conflict, an entrapment based commitment profile, and low social support. In spite of the research attention that has been devoted to demographic and situational factors in coach research, the lack of consistency in the reporting of findings inhibits a useful summary of what is known with regard to these factors and coach burnout.

Although more research has been undertaken and through it more knowledge gained about athlete and coach burnout since the earlier reviews by Fender (1989) and Dale and Weinberg (1990), this does not necessarily parallel understanding of burnout in the sport context. This observation stems from what is best described as a scattergun approach within the existent literature. The review identified that a considerable number of psychological, demographic and situational factors have been examined, yet this has too often only been in one or two investigations. As
alluded to earlier, the literature displays breadth but a notable lack of depth. In addition it was not possible to calculate useful effect sizes within the review due to the limited repeated investigations that have occurred, and inconsistency in the reporting of findings. There are significant issues here for consideration in relation to the caveats in the conceptual thinking around burnout. If the traditional theories of burnout (e.g., Coakley, 1992; Silva, 1990; Schmidt & Stein, 1991; and Smith, 1986) are considered for a moment, it is only through the work of researchers such as Gould et al. (1996a) and Raedeke and colleagues (Raedeke, 1997; Raedeke, 2004; and Raedeke, Granzyk & Warren, 2002) that these conceptual frameworks have been specifically examined. This is not to say that alternative frameworks do not exist, or that there is not good reason for investigating the correlates that have been examined to date. However Jackson, Schwab and Schuler (1986) warned twenty years ago that with more data did not automatically come, more knowledge or understanding.

Research designs

Historically two major stumbling blocks to the advancement of the burnout in sport literature have been the absence of both an agreed definition (Dale & Weinberg, 1990; Fender, 1989) and valid measurement tool (Raedeke & Smith, 2001). Efforts have been made to address these issues through the development of an athlete-specific definition (Raedeke et al., 2002) and operationalisation of this definition through the ABQ (Raedeke & Smith, 2001). Previously Smith’s (1986) definition of burnout as "a psychological, emotional and at times physical withdrawal from a formerly pursued and enjoyable activity in response to excessive stress or dissatisfaction" (p.39) had been the popular definition applied to athlete research, and to a lesser extent coach research which also utilised Maslach and Jackson’s (1984) definition. Through the development of Raedeke et al’s (2002) definition of athlete burnout there is now greater consensus and with it parity, of what constitutes burnout within the sport context. For the sport psychology practitioner this provides a common language that can be used in education directed towards preventing burnout, as well as in supporting individuals experiencing burnout and their social network who are integral to this support process (Udry et al., 1997).

A potential issue for the burnout in sport literature to consider however is the ongoing debate in the professional domain, as to whether there is a need for three dimensions as emotional exhaustion has been identified as the most salient.
Proponents of the three dimensions argue that it offers 'conceptual richness' (Leiter, 1993) and that a unidimensional perspective creates the potential for losing 'sight of the phenomenon entirely' (Maslach, Schaufeli & Leiter, 2001, p.403). Certainly in the sport context the question may be raised of how we differentiate between the fatigued athlete and the burned out athlete if only physical and emotional exhaustion is assessed? Furthermore, multiple dimensions of burnout offer the opportunity to explore profiles of the syndrome as demonstrated in the professional literature (Schaufeli & Enzmann, 1998). The establishment of profiles could further the enquiry into different strains of burnout that has been proposed in the literature (viz. Gould et al., 1996b & 1997). The existence of such strains has significant implications to both the academic exploration of burnout and applied practice.

Similar to the early professional literature, the methodological quality of early burnout in sport research has been varied (Schaufeli & Buunk, 2003). It is only recently that athlete-specific instruments have been published (i.e., ABQ and RESTQ-Sport), and although the coach literature has utilised the MBI, a range of versions has been employed with a lack of standardisation in the reporting of findings. Qualitative approaches are limited and tend to involve an initial screening process of participants through the completion of a self-report measure. There are only two entirely qualitative studies within the literature (viz Coakley, 1992; Cohn, 1990). However, both Fender (1989) and Dale and Weinberg (1990) in their reviews advocated use of multi-method approaches which included self-report, interviews and observation. Within the work context there has also been strong argument for the use of interviews and observation (Leiter, 1993).

The most popular strategy for data collection within the literature has been a self-report instrument of burnout as part of a cross-sectional and correlational design. Two important issues arise from this approach however. Firstly if self-report measures are to continue to be the dominant tool, an important area for future research is the production of norms to abet the identification of individuals with burnout. Although there is now a specific athlete burnout instrument (i.e., ABQ) it is not yet clear what comprises burnout using this measure. In the work context norms have been established for the MBI across a range of occupations, not only aiding identification but also facilitating comparisons between populations and negotiation of the healthy worker effect (Schaufeli & Enzmann, 1998). The establishment of such norms would not only aid academic enquiry but also the work of practitioners.
Secondly, the prevalence of cross-sectional correlational studies and absence of longitudinal approaches have largely prevented the exploration of causality, and created a perspective of burnout as a state, rather than the chronic process by which it is also defined. Although a process approach does appear in some coach research (viz. Quigley et al., 1987; Vealey et al., 1992), the tendency to adopt a state perspective has on the one hand facilitated the identification of factors associated with burnout but on the other, delimited understanding of cause and effect mechanisms. If burnout is to be identified early and treated effectively we must understand more about how it manifests.

Finally with reference to research designs is an area previously touched on in relation to correlates, namely conceptual thinking and the systematic testing of theories. Unlike the professional literature which witnessed an era of ‘sophisticated’ methodology in the 1990’s that sought to specifically explore and test theoretical explanations of burnout (Maslach, Schaufeli, & Leiter, 2001), little systematic testing and deliberate exploration of athlete burnout models (either traditional or contemporary) has taken place.

Limitations

The growth in systematic reviews has in part been born out of dissatisfaction of more traditional reviews, which tend to be descriptive and are seldom able to make sense of the collection of studies reviewed (Noblit & Hare, 1988). However it is not without limitations. Concerns have been raised over search, inclusion and exclusion criteria and potential sources of bias including publication and language (Stern & Simes, 1997). Although an extensive literature search was undertaken to identify all published studies, using only published data and in the English language is acknowledged as a limitation. However, during the electronic and manual searches a significant number of foreign language studies did not emerge.

Conclusion

The burnout in sport literature has seen a steady growth over the last twenty years although the empirical base remains relatively small. Renewed interest since 2000 has led to significant advances in the athlete research in particular, and a state of ‘buoyancy’ in the release of publications is currently evident. The question was asked at the beginning of the review of ‘what have we learned about burnout and sport?’. The answer is much but equally there seems much still to explore. In summary of ‘what we know’ the following are key features / advancements of the
literature: a) Two significant research branches for i) athlete burnout and ii) coach burnout; b) Some consensual agreement on multidimensional conceptualisations of burnout; c) Self report measures specific to athletes and to coaches; d) A range of theoretical frameworks to explain burnout in sport; e) Identification of correlates of burnout in athletes and coaches. Returning to the original reviews conducted by Fender (1989) and Dale and Weinberg (1990), in which key future research directions were identified (as outlined in the introduction to this review), there appears to have been considerable development in relation to the definition, measurement and theoretical conceptualisation of burnout. Research focusing on interventions however remains largely unexplored with no published studies of this nature to date. Although the progress that has been made and the current enthusiasm for research in the area reflect exciting times, there is much to learn from the historical development of the literature. From its inception burnout has been a term that has resonated with people both originally in the professional domain, and other life domains such as sport, into which it has been extended. However, its popularity, and use as an all encompassing concept (Schaufeli & Buunk, 2003) actually led to initial criticism and the perception of burnout within the work and health psychology literature as a form of ‘pop psychology’. In sport psychology’s enthusiasm to embrace and explore the concept of burnout, there may be evidence, certainly within early studies of falling victim of the burnout popularity trap. Often described as something that is easier to observe than define (Edelwich & Brodsky, 1980), this feature of burnout has almost certainly impacted upon its conceptualisation and the robustness of findings. Smith (1986) in his influential paper that introduced the Cognitive Affective Stress Model, raised the pertinent question of the extent to which the nature, causes, and consequences of athlete burnout were unique and to what extent they are shared by those who suffer burnout in other domains. This question remains unanswered but through the advancement of athlete and coach specific definitions and measurement tools, the field has moved further forward towards an answer.

With regard to ‘what we need to know’ and potential future directions the review identified a number of key themes: a). Research examining burnout amongst sport practitioners including athletic trainers, directors and officials, as well as purposeful sampling based upon demographic factors such as gender, sport, level and age group; b). Cross cultural investigations; c). Greater exploration of burnout as
a psychosocial phenomenon and the impact of the individual's social environment, d) Development of alternative assessment measures (i.e., observation, performance indicators) and multi-method strategies for examining burnout; e) Systematic testing of theoretical frameworks and development of existing and new perspectives; f) More longitudinal research to investigate causal relationships and the burnout process; g) More qualitative research to further understanding of the individual experiences of burnout; and h) Development, testing and evaluation of intervention studies for the prevention, treatment and rehabilitation of individuals who have experienced burnout.

Alongside these areas, there are a number of new perspectives that have recently emerged within the literature that are likely to feature significantly in future research. The work that has been carried out examining the complex relationship between burnout, overtraining, staleness, stress, recovery, coping and mood (e.g., Kallus & Kellmann, 2000; Kentta & Hassmen, 1998) will contribute much to clarifying the conceptual confusion that has existed between them. In particular the terms burnout, overtraining and staleness have often been used interchangeably and hence inaccurately, and making clear distinctions, as well as identifying the overlap, is important not only to the advancement of research but also the education of sport practitioners (e.g., coaches, athletics directors), parents and athletes. A possible drawback to this work however is its continuation of the stress-induced perspective of burnout that has traditionally dominated the literature. Non-stress induced perspectives have been offered (viz. Coakley, 1992 and Schmidt & Stein, 1991) but these are still under-researched in comparison. The exploration of self-determination theory has more recently emerged as an alternative to stress approaches and a possible framework for understanding the relationship between burnout and motivational loss which is associated with the syndrome (Cresswell & Eklund, 2005a and 2005b).

Perhaps most significantly the review process has highlighted how a previous lack of exploration of theoretical frameworks, differences in the conceptualisation of burnout and measurement strategies employed, has impacted on the ability of research to offer informed explanations for how burnout manifests, affects individuals and arguably the most crucial aim of this research, how it can be prevented, treated and individuals rehabilitated (Cox, Tisserand & Taris, 2005). However, recent reconsideration of what comprises burnout and how to measure it
has contributed to greater consensus within the field regarding approaches to examining burnout. In relation to applied practice, this could provide a more cohesive knowledge base from which to develop effective monitoring, intervention and management strategies.
Chapter Three

Study Two: An examination of the interrelationships among dimensions of burnout across an athletic season.
Abstract

As the burnout research field has developed two distinct conceptual perspectives have emerged; burnout as a state and burnout as a process. The state perspective identifies burnout as an enduring experiential state (Cresswell & Eklund, 2006a), and characterises it through a selection of core symptoms (Leiter, 1993). In contrast, the process perspective considers burnout to be a chronic developmental process which manifests gradually overtime. Proponents of a process approach argue that the most useful conceptualisation of burnout in understanding aetiological factors, and in developing interventions is to view it as a developmental process (Leiter, 1993). To date no research has been conducted examining the burnout process among athletes (see Study One), and thus the purpose of this study was to explore burnout across an athletic season within a sample (n=110) of elite British athletes. Specifically three process models of professional burnout (i.e., Leiter & Maslach, 1988; Golembewski & Munzenreider, 1988; Van Dierendonck, Schaufeli and Buunk, 2001a) were tested through path analysis. Predictions from each model were tested both within and across time over a three wave longitudinal data collection. All of the models failed to be supported by the data but post hoc exploration and subsequent model modification, led to support for Leiter and Maslach's (1988) model within time. Issues concerning longitudinal research designs and contextual differences between the sport and professional settings were discussed, together with applied and research implications.
Introduction

According to the most often used conceptualisation of burnout by Maslach and colleagues (Maslach & Jackson, 1981; Maslach, Jackson, & Leiter, 1996), burnout is a psychological syndrome which develops as a consequence of exposure to prolonged stress. The syndrome manifests as three-dimensions, which although empirically related, are conceptually distinct, namely: emotional exhaustion; cynicism (or depersonalisation); and professional inefficacy (or reduced accomplishment) (Toppinen-Tanner, Kalimo, & Mutanen, 2002). Since its origins amongst the helping professions, three decades of research has extended the concept to exploration within other life domains including sport, and burnout in coaches (e.g., Raedeke, 2004; Price and Weiss, 2000; Caccesse & Mayerberg, 1984) and athletes (e.g., Cresswell & Eklund, 2005; Raedeke & Smith, 2001; Gould, Udry, Tuffey, & Loehr, 1996a and b; Cohn, 1990).

Emotional exhaustion is generally considered to be the central component of burnout and is an individual state reflecting the stress dimension of burnout (Schaufeli & Taris, 2005). It is characterised by tiredness and fatigue, and is the result of a gradual depletion of emotional resources due to emotionally overtaxing work (Toppinen-Tanner et al., 2002). Maslach, Schaufeli and Leiter (2001) explain that emotional exhaustion is not simply an experiential state but that it prompts action by the affected individual to emotionally and cognitively distance themselves from work. This distancing is identified as a coping strategy that is part of the second dimension of burnout, cynicism or depersonalisation, and it is also associated with a negative attitude, indifference and a loss of interest and meaning in work. A strong relationship between emotional exhaustion and cynicism has been consistently reported within the literature across a range of organisational and occupational settings (Maslach et al.). Professional inefficacy has often been marginalised in comparison to the other dimensions and as such its role and relationship with the other dimensions is less clear (Cox, Tisserand & Taris, 2005). It has been labelled a consequence or outcome of burnout, and is experienced through feelings of low professional self-esteem, incompetence and ineffectiveness (Schaufeli & Taris, 2005). There are two differing schools of thought as to how this dimension develops. One proposes that it is either a consequence of emotional exhaustion, cynicism, or a combination (Maslach, 1993), while the second argues, that it develops in parallel.
but separately to the other dimensions (Leiter, 1993).

There is ongoing debate within the sport context of how to conceptualise burnout (Cresswell & Eklund, 2006a). Traditionally burnout has been defined as a form of dropout (Coakley, 1992; Smith, 1986) and also as a consequence of excessive training demands (Silva, 1990). More recently Raedeke (1997) has advanced a multidimensional conceptualisation based upon original work from the professional context by Maslach and Jackson (1981). Raedeke proposed that athletic burnout comprises physical/emotional exhaustion (PEE), reduced athletic accomplishment (RA), and sport devaluation (DV). It is suggested that athletes can experience physical and emotional exhaustion as a result of training and competitive demands. Reduced athletic accomplishment is associated with sport abilities and achievements. Sport devaluation replaces depersonalisation and refers to the development of a negative attitude toward sport and their involvement in it (Raedeke, 1997).

As the burnout research field has developed two distinct conceptual perspectives have emerged; burnout as a state and burnout as a process. The state perspective of burnout identifies the syndrome as an enduring experiential state (Cresswell & Eklund, 2006a), and characterises it through a selection of core symptoms (Leiter, 1993). Maslach and Jackson’s (1981) three dimensions of burnout is the most well recognised state definition. In contrast, the process perspective conceptualises burnout as a chronic developmental process which manifests gradually over time. The rate of development is considered to be slow and may go unnoticed for sometime by the affected individual (Etzion, 1987). These perspectives are however, not mutually exclusive. Pines (1993) explains that burnout is a syndrome that is a negative state of physical, emotional and mental exhaustion which is the end result of a gradual process of disillusionment. There is also a third overarching perspective which essentially combines state and process, and is known as a ‘synthetic’ definition (Schaufeli & Enzmann, 1998). Schaufeli and Buunk (2003) explain that a synthetic definition specifies the general symptomatology of burnout, together with its preconditions and the domain in which it occurs. Specifically exhaustion is considered to be the core indicator with four general symptoms that are domain related: distress (affective, cognitive, physical and behavioural symptoms); a sense of reduced effectiveness; decreased motivation and dysfunctional attitudes and behaviours at work. The burnout process is self-perpetuating amongst ‘normal’
individuals although it may not be recognised initially and preconditions to its
development include frustrated intentions and inadequate coping strategies.

To date, most research has focused on burnout as a state, that is, a more or less
stable outcome of a limited and static set of predictors, rather than as a process and
dynamic phenomenon that emerges from the interaction of many variables (Ashforth
& Lee, 1997) (See Study One). Knowledge of the process though is considered to be
crucial in aiding early identification, recognition of people in different phases of
burning out, and creating the opportunity to intervene before burnout becomes severe
(Shirom, 2005; Toppinen-Tanner et al., 2002; Ashforth & Lee, 1997). Proponents
of a process approach argue that the most useful conceptualisation of burnout in
understanding aetiological factors, and in developing interventions is to view it as a
developmental process (Leiter, 1993). Burnout is not considered to have an "on-off
switch", there is no clearly identifiable moment when a person announces "I am
burned out" but rather it is a gradual eroding process that may also go un-noticed
initially (Cordes, Dougherty, & Blum, 1997). The predominance of cross sectional
research within the existent work related literature, by virtue of its "one shot" design,
has been criticised as failing to inform causality and being "unpromising generally"
(Burisch, 2002).

To explain how burnout develops over time a number of process models have
been advanced in the organisational context. There has been no consensus about the
development of the syndrome, although the suggested models share basic
assumptions about underlying causal mechanisms centred on sequential inter-
relationships between the three dimensions of burnout. Historically two models have
been particularly prominent, namely: Leiter and Maslach (1988) and Golembiewski
and Munzenrider (1988). Leiter and Maslach hypothesise that the dimensions follow
a sequential order over time in which the occurrence of one dimension precipitates
the development of another (Maslach et al., 2001). Exhaustion is proposed to occur
first, leading to depersonalisation and this in turn to reduced accomplishment. The
authors illustrate this sequence through the experiences of nurses who reported
increases in feelings of exhaustion that resulted from stressful interactions with
supervisors. In turn, heightened levels of exhaustion led to cynicism, the persistence
of which yielded diminished professional efficacy (Leiter & Maslach, 1988).

Golembiewski and Munzenrider (1988) offer a phase model in which burnout
is considered to be a virulent process that progresses from cynicism to diminished
feelings of personal accomplishment and professional inefficacy, and from the reductions in personal accomplishment to emotional exhaustion as a final phase (Cordes et al., 1997). The progressive development of burnout is also theorised to occur through eight phases. The eight phases are essentially derived from all of the possible combinations of the three dimensions assessed using the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986), when they are each dichotomised into high and low based upon medians of the MBI (see Table 4.) (Schaufeli & Buunk, 2003). The MBI is a self report measure specifically designed to measure burnout across the three dimensions, and from its development it has “almost been universally accepted as the gold standard” in assessing burnout (Schutte, Toppinen, Kalimo, & Schaufeli, 2000, p.53). It is important to note however, that although burnout increases across the eight phases, individuals do not necessarily have to pass through successive phases (Schaufeli & Buunk).

Table 4: Progressive phases of burnout

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<tr>
<td>DEP</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>PA</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>Low</td>
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<td>High</td>
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<tr>
<td>EE</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
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</tbody>
</table>

This model is the only process model that has been applied to research in the sport context. Research exploring burnout amongst coaches by Quigley et al. (1987) and Vealey et al. (1992) employed a version of Golembewski and Munzenrider’s (1988) phase model to aid identification of coaches experiencing different levels of burnout. By separating coaches in different phases of burnout (from low to high) Quigley et al. sought to examine factors associated with the incidence of higher levels of burnout. Vealey et al. investigated whether it was possible to distinguish between coaches with high and low burnout based upon dispositional, cognitive and situational factors. Both studies confirmed the applicability of the eight phases of burnout amongst this population but the developmental sequence proposed in this model has not yet been tested.

More recently Van Dierendonck, Schaufeli and Buunk (2001a) presented a process model that conceptualises yet another combination to the temporal sequence for the development of the dimensions of burnout: professional inefficacy influences
cynicism, and cynicism then influences emotional exhaustion. The study examined the relationship between burnout and inequity among human service professionals at two time points with a year interval between. The authors propose that personal accomplishment may function as the basic or core resource that helps an individual to deal with difficult situations, and that reduced accomplishment interferes with a person's coping style. As a result of reduced accomplishment the individual experiences depersonalisation as a form of defensive coping. Finally emotional exhaustion develops as a product of maladaptive coping. Coping involves the investment of resources, and hence maladaptive coping can lead to resource depletion and exhaustion.

Reviews of existent process models and associated research converge on a number of key criticisms of the literature, these include: “There has been a great deal of theorising about the developmental trajectory of burnout overtime. However, there has been scant research to actually test these hypotheses” (Maslach et al., 2001, p.404); “Although theorists describe burnout as a phenomenon that develops over time, few studies have taken a longitudinal approach to describe its course” (Savicki & Cooley, 1994, p.655); “Studies addressing this debate are largely inconclusive” (Cordes et al., 1997, p.687); and “Longitudinal evidence in favour of any of the models compared here is largely absent” (Taris, Le Blanc, Schaufeli & Schreurs, 2005, p. 242). In summary, the exploration of burnout as a process remains an under-researched area and the employment of longitudinal approaches, which are considered fundamental to understanding its development over time, have been highly under-utilised (Savicki & Cooley, 1994).

Although researchers have investigated the causal order of the three dimensions of burnout using cross-sectional designs (e.g., Bussing & Glaser, 2000; Cordes et al., 1997), it is argued that only longitudinal designs provide strong evidence on the temporal, and thus causal, order of the dimensions (Taris et al., 2005). However, longitudinal studies are not considered to be a panacea to examine burnout over time and researchers are yet to find a paradigm that adequately elucidates the burnout process (Burisch, 2002). Burisch identified two key requirements of promising longitudinal designs; the number of time points and the length of the interval between time points. It is recommended that more than two time points are used to enable meaningful patterns of change to be established. Time points should also be sufficiently far apart to actually study burnout but close enough
to decrease the likelihood of attrition. Simply, Burisch advocated that repeated measures over an extended period of time provide “a better chance of seeing things move” (p.3). Therefore further research involving more than two points and seeking to identify the optimal duration between data collection points is required.

The importance of understanding the burnout process lies in that if the problem of burnout is to be effectively addressed, people need to know what to be on the look out for (Cordes et al., 1997). Cordes and colleagues argue that the success of recognition efforts and interventions depends on the accurate assessment of the temporal sequence in which the dimensions develop, and that theory-based research is likely to provide most insight to this endeavour. From an applied perspective, simply, if emotional exhaustion is indicative of developing burnout, then one set of ameliorative efforts are called for, where as if depersonalisation is the earliest visible dimension, then alternative efforts may be required (Cordes et al, 1997). To date no research has been conducted examining burnout as a process amongst athlete populations. Qualitative research has explored athlete experiences of burnout, their views on antecedents (e.g., Gould et al., 1996b) and attributions, and inter-relationships between the dimensions of burnout (e.g., Cresswell & Eklund, 2006a) but not as a developmental process. Therefore the purpose of the current study was to explore burnout as a process across an athletic season. Specifically inter-relationships between the three dimensions of burnout were examined for within time associations at each time point, and across time associations, as predicted by three process models.

Method

Participants

Participants were young elite athletes (N = 110) based in England and aged between 12 and 23 years (M = 15.77, SD = 1.96). Athletes from four main sports were involved, these were: badminton (n = 22); athletics (n = 38); triathlon (n = 12); football (men’s) (n = 31); and football (women’s) (n = 18). Proportions of male and female participants were 56% and 44% respectively. The elite inclusion criteria was established as competitive performance at national/international or professional standard. Athletes had trained and competed at the elite level for between 1 and 10 years (M = 6.25, SD = 1.47), and were all members of a National Governing Body (NGB) development programme (or under professional contract), for which 57.3% received funding. The majority of athletes (87%) were studying at secondary, post 16
or higher education institutions. For 43% of these athletes, this education provision was an integral part of their governing body development programme.

Procedure

Ethical approval was granted by the Ethical Advisory Committee of Loughborough University, and permission to conduct the research was obtained from Performance Directors and coaches of the involved NGBs. The NGBs were approached via letter and telephone for recruitment into the study. Following indication of initial interest, induction meetings were carried out with NGB staff working with athletes, and data collection sessions agreed for different time points in the athletic season. The time points varied slightly based upon the structure of the season for the respective sports. For example football began with pre-season training in July whilst athletics were entering the major part of the competitive season at this time. Initially four periods of data collection at four different time points were agreed (pre-season, early competitive season, mid season, late competitive season).

However, pre-season became a problematic time for a number of sports and as comprehensive data collection was not possible for all sports, it was withdrawn from the study. Informed consent was obtained from parents for athletes under 18 years of age and willingness to participate forms from senior athletes, via the distribution of letters that introduced the purpose of the study prior to data collection. Athletes who did not have completed consent documentation were withdrawn from the study. Data collection took place during designated training camps in a classroom based setting, and formed part of the scheduled programme for that camp. Participants were given an explanation of how to complete the questionnaire, and assured of the confidentiality of their responses and the voluntary nature of their participation in the study. Each participant responded to a multi-section questionnaire which took approximately 15 minutes to complete, and this procedure was repeated for each wave of data collection.

Instrumentation

Demographic Questionnaire. Personal information about participations was recorded in the first section of the questionnaire and related to their personal details (i.e., age, gender etc), sport participation (i.e., representative level, competitive history), and current training and performance commitments (i.e., hours training, hours competing).

Burnout - The Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001) is an
athlete specific measure of perceived burnout and consists of three subscales: Physical and Emotional Exhaustion; Sport Devaluation; and Reduced Performance Accomplishment. It comprises 15 items, with five items in each subscale. Respondents are asked to consider their current sport participation and respond to items using a five point Likert scale ranging from 'Almost Never'(1) to 'Almost Always' (5). This instrument has only been employed in a limited number of studies (e.g., Cresswell & Eklund, 2004; Cresswell & Eklund, 2005; Raedeke & Smith, 2001) to date but acceptable internal consistency (alphas ranging from 0.85 and 0.91) have been reported, together with good test-retest reliability and construct validity (Raedeke & Smith, 2001). For this investigation the ABQ was adapted to be specific for each type of sport examined through minor word changes (e.g., replacement of the word 'sport' for 'athletics', 'badminton', 'triathlon' or 'football').

Analysis

Descriptive statistics were initially calculated for the sample across the three time points, including the internal consistency of the ABQ and levels of perceived burnout reported for each subscale. Path analysis was carried out using EQS 6.1 software (Bentler & Wu, 2002). This form of analysis is a subset of Structural Equation Modelling (SEM) and is closely related to multiple regression. It is a type of causal modelling through which theoretical predictions about cause and effect, and causal relationships between variables can be tested. Specifically the technique tests the fit of the correlation matrix against causal models specified by the researcher. Where SEM analyses both latent (unobserved, constructs or factors) and measured (observed, indicators, or manifest) variables, path analysis is only concerned with measured variables. Due to the sample size of the present study path analysis was identified as the most appropriate method of analysis, and measured variables were used.

Based on the theoretical propositions outlined in the process models of burnout by Leiter and Maslach (1988) (Model 1), Golembiewski and Munzenrider (1988) (Model 2), and Van Dierendonck et al. (2001a) (Model 3), three a priori models were proposed for the relationships predicted between the burnout dimensions within-time (stability coefficients) and across-time (lagged effects) were specified (see Figure 1). For example in Model 1, based upon Leiter and Maslach's process model, emotional exhaustion predicts depersonalisation which then predicts reduced accomplishment. This model was configured into path analysis for each time
point (within time) and across time where emotional exhaustion at Time One predicts
depersonalisation at Time Two, and devaluation at Time One predicts reduced
athletic accomplishment at Time Two etc. Each dimension was also assumed to be
longitudinally related to itself and this was incorporated into the models tested.

Robust maximum likelihood estimation procedures were used in the analysis
as the normalised estimate of Mardia’s coefficient of multivariate kurtosis was high
(6.954). These values exceeded the criteria stated by Bentler (2006) that “values
larger than 3 provide evidence of nontrivial positive kurtosis, though modelling
statistics may not be affected until values are 5, 6 or beyond” (p. 106). The following
indices of fit provided by EQS were used to evaluate the adequacy of model fit,
absolute indices included; chi-square, root mean square error of approximation
(RMSEA), and standardised root mean square residual, (SRMR), relative indices
included non-normed fit index (NNFI) and comparative fit index (CFI). In line with
recommendations by Hu and Bentler (1999), values of ≥ 0.90 and ≥ 0.95 for the
NNFI and CFI represented acceptable and good fit to the data, respectively. For the
RMSEA and SRMR values of ≤ 0.6 and ≤ 0.8, respectively, were taken as indicating
good model fit.

Model modifications were explored through the Lagrange Multiplier Index
(LM) and the Wald test. The LM tests the effects of adding free parameters to the
model, and conversely the Wald test asks whether deletion of any free parameters
increases model fit. Changes in chi-square values reflect the impact of pathway
adjustments made during these tests. It is suggested that these post-hoc modifications
can provide insight into variations of a hypothesised model, they are influenced by
chance and changes that are proposed are usually only advised when theoretically or
logically justified (Biddle, Wang, Chatzisarantis, & Spray, 2003).
Model 1 (Leiter & Maslach, 1988).

Model 2 (Golembewski & Munzenrider, 1988)

Model 3 (Van Dierendonck et al., 2001a)

Figure 1: Process models tested
Results

Scale reliabilities and descriptive statistics

Internal consistency estimates of the ABQ subscales were calculated through a Cronbach alpha coefficient at each time point, and these results, together with mean and standard deviations scores, are presented in Table 5. Each subscale exhibited acceptable internal consistency in that Cronbach’s alpha exceeded the recommended 0.70 criterion (Nunnally, 1978) at each time point. Mean scores for the burnout dimensions show a slight increase in levels of perceived burnout over the season.

Model testing

Table 6 shows the fit indices for the three models tested. None of the models exhibited acceptable fit to the data. Van Dierendonck et al.’s model (2001a) (Model 3) fitted the data considerably less well than the other models, followed by Golembewski and Munzenrider’s model (1988) (Model 2). Post hoc exploration through the LM test and Wald test did not improve the goodness-of-fit of either the Model 2 or 3 to within acceptable limits. However the Wald test suggested some parameters should be dropped from Model 1 which subsequently resulted in a modified model with a good fit to the data (see Figure 2). Specifically the Wald test proposed that links between PEE and DV, and DV and RA across time should be dropped. Leiter and Maslach’s (1988) sequential order of PEE – DV – RA was supported within time, and across time associations were confirmed for the same dimensions (i.e., PEE at Time One with PEE at Time Two) but not for hypothesised resultant dimensions (PEE at Time One with DV at Time Two). Standardised solutions also confirmed stronger associations between the same dimensions across time, than hypothesised resultant dimensions. Although direct relationships were not supported for the Leiter and Maslach model between sequential dimensions across time, there are possible indirect relationships if burnout is considered to be the result of accumulative effects of the interaction between dimensions observed within time. For example, DV at time 2 is the direct result of PEE at Time 2 but is also indirectly affected by PEE at Time One which predicts PEE at Time 2, and also through the direct relationship between PEE at Time 1 and DV at Time 1 when DV at Time 1 predicts DV at Time 2. The strength of these relationships are however, considered to be small and the impact marginal.
Figure 2: Modified version of Lieter & Maslach’s (1988) original model
Table 5: Descriptive statistics and internal consistency estimates at time point

<table>
<thead>
<tr>
<th>Burnout dimensions</th>
<th>Time 1 M</th>
<th>Time 1 SD</th>
<th>Time 1 α</th>
<th>Time 2 M</th>
<th>Time 2 SD</th>
<th>Time 2 α</th>
<th>Time 3 M</th>
<th>Time 3 SD</th>
<th>Time 3 α</th>
<th>Average M Time 1-3</th>
</tr>
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<tbody>
<tr>
<td>PEE</td>
<td>2.02</td>
<td>.66</td>
<td>.80</td>
<td>2.33</td>
<td>.67</td>
<td>.79</td>
<td>2.35</td>
<td>.75</td>
<td>.76</td>
<td>2.33</td>
</tr>
<tr>
<td>DV</td>
<td>1.57</td>
<td>.59</td>
<td>.76</td>
<td>1.58</td>
<td>.50</td>
<td>.80</td>
<td>1.59</td>
<td>.55</td>
<td>.81</td>
<td>1.59</td>
</tr>
<tr>
<td>RA</td>
<td>2.16</td>
<td>.54</td>
<td>.81</td>
<td>2.33</td>
<td>.49</td>
<td>.82</td>
<td>2.34</td>
<td>.58</td>
<td>.86</td>
<td>2.28</td>
</tr>
</tbody>
</table>

Table 6: Fit indices of process models

<table>
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<tr>
<th>Model</th>
<th>df</th>
<th>Satorra-Bentler χ²</th>
<th>NNFI</th>
<th>CFI</th>
<th>SRMR</th>
<th>RMSEA</th>
<th>90% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode 1 (Leiter &amp; Maslach, 1988)</td>
<td>20</td>
<td>50**</td>
<td>.77</td>
<td>.87</td>
<td>.12</td>
<td>.10</td>
<td>.07 - .15</td>
</tr>
<tr>
<td>Model 2 (Golembewski &amp; Munzenrider, 1988)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 3 (Van Dierendinck et al., 2001a)</td>
<td>20</td>
<td>119**</td>
<td>.28</td>
<td>.30</td>
<td>.30</td>
<td>.23</td>
<td>.19 - .26</td>
</tr>
<tr>
<td>Modified Model 1</td>
<td>22</td>
<td>27**</td>
<td>.96</td>
<td>.97</td>
<td>.07</td>
<td>.04</td>
<td>.0 - .09</td>
</tr>
</tbody>
</table>

*p ≤ .05      **p < .01
Discussion

The present study represents one of the first attempts to investigate the temporal development of the dimensions of burnout within an athlete population. The main aim of the study was to explore the inter-relationships between the three dimensions of athletic burnout outlined by Raedeke (1997) (i.e., physical and emotional exhaustion, reduced athletic accomplishment and sport devaluation) within time, and across-time for an athletic season. Using path analysis three process models were tested (Model 1: Leiter & Maslach, 1988; Model 2: Golembewski & Munzenrider, 1988; and Model 3: Van Dierendonck et al., 2001a) which propose competing hypotheses for the temporal sequencing of burnout dimensions.

Using longitudinal data from a sample of young elite athletes in England, all of the models tested failed to exhibit an acceptable fit to the data. Model 1 advanced by Leiter and Maslach (1988) which proposes a sequence of PEE - DV - RA, established a markedly better fit to the data than the other models but still fell below acceptable criterion levels. Through post hoc analysis the Wald test suggested that the model fit could be improved if hypothesised relationships between different dimensions over time (e.g., PEE at Time One - DV at Time 2) were dropped. That is, a modified Model 1 (see Figure 2) emerged that supported sequential pathways between different dimensions within-time but relationships between dimensions across-time were primarily associated with the same dimension at earlier time points (e.g., PEE at Time One - PEE at Time Two). This suggests that based upon Leiter and Maslach's model, PEE leads to feelings of DV, and DV to a sense of RA within time, but these predictions were not supported for dimensions across time. Across the athletic season each dimension was the strongest predictor of itself, and although this finding is not unexpected, it infers that the dimensions are co-occurring or coactive rather than related in an interactive temporal sequence.

Although the present findings did not support Leiter and Maslach's (1988) model across time, other longitudinal studies in the work context have confirmed its predictions (Bakker, Schaufeli, Sixma, Bosveld & Van Dierendonck, 2000; Taris et al., 2005; Toppinen-Tanner et al., 2002;). Model testing occurred at two time points in the studies by Toppinen-Tanner et al. (2002) and Bakker et al. (2000), and the association between variables at Time One with variables at Time Two was considered, this was however in relation to the same variables at both time points.
That is, these studies did not examine the lagged effects between different burnout dimensions at the different time points. In the more recent study Taris et al. (2005) investigated lagged effects between different dimensions in a three wave longitudinal design, as predicted by four contrasting process models including Leiter and Maslach (1988). They reported that higher emotional exhaustion triggered higher depersonalisation, and higher depersonalisation was associated with higher reduced accomplishment across time. However, the authors commented that although these lagged effects were significant, they were only small and therefore accounted for little variance in the across-time change in the burnout dimensions. They attributed this to the relative stability of burnout over time, and proposed that whereas at a given time point there are strong associations between the different dimensions of burnout, across-time changes appear to depend little on the conceptually preceding dimension.

Longitudinal research within the work related context has frequently failed to replicate cross sectional findings, and alongside methodological issues, this has often been linked to the relative stability of burnout (Schaufeli & Enzmann, 1998). Research that has explicitly assessed the stability in percentages of shared variance of the three burnout dimensions for different time intervals, has reported that in the case of emotional exhaustion more than 50% of variance of a second measurement of this dimension was explained by a first measurement. Stability values for depersonalisation and reduced accomplishment were similarly high with 16 - 93% and 25 – 86% of variance accounted for by an earlier measurement respectively (Schaufeli & Enzmann, 1998). Shirom (2005) observed that “regardless of sample makeup, cultural context, and length of time of the follow-up survey, the phenomenon of burnout exhibits remarkable stability” (p.264). Burnout therefore, is a chronic rather than a transient condition (Schaufeli & Buunk, 2003). Perceived burnout scores in the present sample, though comparable with previous athlete research (e.g., Cresswell & Eklund 2005: PEE 2.39 – 2.43; DV 1.65 – 1.90; and RA 2.04 – 2.50; Raedeke & Smith: PEE 2.62; DV 2.02; and RA 2.37), were low and showed limited change across the season. Therefore, this is likely to have impacted the opportunity to observe across-time relationships between dimensions, and also raises the question of whether these athletes were actually experiencing burnout. A notable criticism of burnout research generally, is that it has more often than not been conducted on individuals who do not actually have burnout (Cox, et al., 2005). The
within-time findings are in line with previous cross-sectional research (Cordes et al., 1997; Greenglass, Burke & Konarski, 1997; and Lee & Ashforth, 1993a) that has supported the sequential associations between dimensions proposed by Leiter and Maslach (1988). However, this may be reflective of the self-report methodology employed, in that athletes were asked to complete the ABQ in relation to how they had felt in the last month and hence may have made connections between the dimensions based upon their experiences over this time period. For example, if this was a heavier phase of training they may have experienced feelings of exhaustion and some negativity towards the sport because they were tired which is not indicative of burnout but simply the response to physical demands placed upon them.

The eight phases of burnout proposed by Golembewski and Munzenrider’s (1988) (Model 2) have been successfully established within the sport (Quigley et al., 1987; Vealey et al., 1992) and work context, together with: progressions of the phases from low to high correlating with worsening states of both work and personal well-being (Maslach et al., 2001); identification of different phases associated within different organisational settings; and the stability of phase membership (Schaufeli & Buunk, 2003). In research that has examined the sequential predictions made by Golembewski and Munzenrider’s (1988) model however, there has generally been a failure to produce empirical support for the predictions (e.g., Taris et al., 2005; Toppinen-Tanner et al., 2002; Cordes et al., 1997; Savicki & Cooley, 1994; Lee & Ashforth, 1993a). The poor fit for this model recorded in the present study is therefore consistent with previous longitudinal findings within the existent literature.

Ashforth and Lee (1997) raise a number of theoretical and empirical arguments to explain why Golembewski and Munzenrider’s (1988) sequential predictions have failed to accrue supporting empirical evidence. Firstly from a theoretical perspective, they argue it is not made clear how or why depersonalisation develops. In Leiter and Maslach’s (1988) model this dimension is a coping strategy that develops to combat growing exhaustion. According to Golembewski and Munzenrider, depersonalisation develops from the outset, seemingly in the absence of some form of strain. In turn, the model then fails to explain how emotional exhaustion develops from depersonalisation and reduced accomplishment. Leiter and Maslach (1988) propose that emotional exhaustion is the result of idealism and unrealistic desires of the provider to solve the frequently intractable problems of clients, and as such, the more idealistic the provider the greater the potential for burnout. As the provider is already
withdrawing commitment and detaching themselves from the client through depersonalisation, this raises the question of how emotional exhaustion develops under these circumstances. For the athlete experiencing burnout, it seems unlikely that they simply wake up one morning and feel devaluation towards their sport. The negative attitude and change in motivation associated with this dimension must logically stem from something. From an empirical perspective, Ashforth and Lee (1997) identify that further doubt is cast upon Golembewski and Munzenrider’s model through the consistency of research findings with regard to stronger correlations between emotional exhaustion and depersonalisation, than reduced accomplishment with either emotional exhaustion or depersonalisation. The weak association that reduced accomplishment demonstrates with the other dimensions questions therefore, the mediating role that Golembewski and Munzenrider envision.

Support for Van Dierendonck et al.’s (2001a) model has been established in a secondary analysis of human service professionals by the same authors (Van Dierendonck, Schaufeli and Buunk, 2001b) and in a longitudinal study of burnout amongst blue and white collar workers by Toppinen and colleagues (2002). In the latter study a moderate fit to the data was reported, although Leiter and Maslach’s (1988) model, which was also tested, emerged ultimately as the best fitting model. Van Dierendonck’s at al.’s model reported the weakest fit indices of the models tested, and hence fitted the data least well. Maslach and colleagues (2001) raise an important conceptual consideration which could in part explain why Van Dierendonck’s et al.’s model failed to achieve support in the present study. They argue simply that it is difficult to experience a sense of performance accomplishment when emotionally exhausted and experiencing cynicism towards work. If as Van Dierendonck et al. assert, reduced accomplishment marks the onset of burnout, how then does one develop this dimension? Moreover, based upon Maslach and colleagues’ proposition, there would need to be the inclusion of some feedback connection between reduced accomplishment and the other dimensions which is not presently featured in the model. The impact of emotional exhaustion and depersonalisation is to erode one’s sense of effectiveness, and resultant effect is professional inefficacy (Maslach et al.). The role of reduced accomplishment in burnout continues to be an area of considerable debate and “it is still not yet clear whether feelings of diminished personal accomplishment are actually a component of burnout, or should be viewed as an outcome” (Cordes et al., 1997 p.686). There has
been suggestion that rather than the development of reduced accomplishment being related to the other burnout dimensions, it develops in parallel but separately (Leiter, 1993). Lee and Ashforth (1993a) in a study directly comparing the efficacy of Leiter and Maslach (1988) and Golembewski and Munzenrider (1988), confirmed the relationship between emotional exhaustion and depersonalisation proposed by Leiter and Maslach but also reported that emotional exhaustion directly evoked reduced accomplishment rather than indirectly through depersonalisation. From the present study no relationships emerged between RA and other dimensions with the exception of DV which was linked to RA within-time in modified Model 1 (Figure 2). In a qualitative study Cresswell and Eklund (2006a) identified that RA was related to both PEE and DV in professional rugby players, and they argue that reduced accomplishment and low professional efficacy should be considered key characteristics of athletic burnout. The lack of clarity surrounding the role of RA in the burnout phenomenon suggests that further research specifically relating to this dimension is warranted.

Cresswell and Eklund’s (2006a) observation of the role of RA in athletic burnout brings into question potential contextual differences that may exist between burnout as a process in sport and work contexts. There has been limited exploration of contextual differences (e.g., Cresswell and Eklund; Raedeke, 1997; Raedeke, Lunney & Venables, 2002) and Cresswell and Eklund argue that there is a “need for prudence in the extrapolation of burnout conceptualisations developed in the human care and general work settings to sport and the experiences of athletes” (p. 219). A further potential contextual difference that may affect the investigation of the burnout process is the proposal that burnout in sport is cyclical (Vealey, Udry, Zimmeman & Soliday, 1992). Vealey et al (1992) suggest that due to the seasonal structure of sport there are periods when individuals are more susceptible to burnout such as during prolonged and intense training cycles, in crucial competition phases, or when pressured conditions are faced such as relegation battles. Longitudinal investigations of athlete burnout are scarce and findings have been inconsistent (Cresswell & Eklund, 2005a and b; Lai & Wiggins, 2003). If burnout is cyclical in nature, this has significant implications for the conceptualisation of burnout as a process, as well as measurement and assessment (i.e., when should it be measured?). From an applied perspective this also raises questions about identification and the development of effective interventions strategies. Findings in the present study do not however
support the cyclical proposition and as yet there is no empirical research evidence of it. Central to Maslach and Jackson's (1981) original conceptualisation of burnout was the provider-recipient relationship of the helping professions, Raedeke (1997) stated that for athletes the core element of sport was performance and as such athletic burnout should be defined in relation to sport performance. Future work examining burnout as a process, and longitudinal research generally amongst athletes, will need to consider factors affecting performance in training and competition, as well as strategies to assess performance outcomes both objectively (e.g., win/loss) and subjectively (e.g., satisfaction) (Cresswell & Eklund, 2006a).

There are a number of limitations of the present study that should be acknowledged. Both a potential limitation and an area for future research exploring the burnout process is the development of longitudinal research designs. There has been repeated calls within both the work (Leiter, 1993) and sport (e.g., Cresswell & Eklund, 2006a; Gould et al, 1997) related literature to conduct more longitudinal studies but equally there is concern that such research, and indeed gathering more empirical data generally, does not necessarily mean that more knowledge and understanding will be gained, if the design and methodology of research is inadequate (Burisch, 2002; Jackson, Schwab & Schuler, 1986). The present study attempted to overcome some of the limitations associated with previous longitudinal research by utilising three time points, and carefully selecting the intervals between data collection to ensure sufficient time to observe burnout while also reducing potential for attrition (Burisch). Burisch suggests that longitudinal studies can be improved further by considering the timing of data collection in relation to major turning points in an individual's life. In terms of the work context this may include periods such as job entry, corporate reorganisation and job loss. For an athlete similar situations could involve transition periods from junior to senior, relocation to new training facilities and coach, and de-selection. In the current study the original intention was to coincide data collection with the periodisation of the season but due to being unable to carry out a full data collection in the pre-season, timing intervals became slightly less specific as early, mid and late season. These periods may therefore have failed to capture critical points in the season.

Due to the limited number of longitudinal studies that have been undertaken there remains much to develop in order to capitalise on what could be gained from a longitudinal perspective of burnout. Burisch (2002) argues that the nature of the
burnout syndrome will require a specific and tailored variant of longitudinal research, and hence, this necessitates further research. This is not only to understand burnout as a process more fully but also to identify causal factors and the consequences (short and long term) of the syndrome. Longitudinal research designs are not the only avenue for development in methodological approaches however. Early in the history of the sport burnout literature were suggestions that more multi-method methodologies should be employed incorporating self-report, interviews and observations to deepen understanding of the syndrome (Dale and Weinberg, 1990; Fender, 1989). As identified in study one, burnout research in the sport context (as well as the work context) is heavily biased towards self-report measures and hence athlete responses are quantified, limiting opportunity to learn about burnout as an experiential state.

Another limitation of the study was the identification of individuals with burnout. As acknowledged earlier in the discussion burnout levels within the sample were low and showed little change across the season, this brings into question issues of validity concerning whether the sample can be considered representative of burnout. In previous athlete based research it has been acknowledged that sampling athletes with burnout is a 'formidable' task as many of these individuals are no longer actively involved in sport (Gould et al., 1996a). At present there are no cut off points for the ABQ which could be used to identify athletes with burnout. The MBI has been utilised as a diagnostic tool within the work context through the establishment of cut offs and also the generation of norms (Schaufeli, Bakker, Hoogdum, Schaap, & Kladler, 2001). This situation is some way off for research amongst athlete populations but is of crucial importance if researchers are to learn more about burnout from those who have lived with it.

In addition to the advancement of longitudinal research designs to more accurately capture the burnout process as a future research direction, the influence of other factors, or mediating variables, on the development of the burnout dimensions (PEE, DV and RA) should be explored, alongside the inter-relationships between them. For example within the work setting, demand stressors have been associated with the development of emotional exhaustion, variables leading to a perception of a random or uncontrolled environment with depersonalisation, and variables that generate a perception of being unappreciated, ineffective or incompetent with reduced accomplishment (Cordes et al., 1997; Toppinen-Tanner et al., 2002). Within
the sport context this may include factors such as training and competitive demands predicting PEE, contractual commitments predicting DV and win/loss records and rewards predicting RA.

Conclusion

Support for Leiter and Maslach's (1988) model of the burnout process (emotional exhaustion – depersonalisation – reduced accomplishment) was established within time but not across time in the present study. Although this potentially limits the application of these findings to the discussion of burnout as a developmental process, it does reinforce the centrality of the exhaustion dimension in the burnout syndrome (Toppinen-Tanner et al., 2002). Cordes et al. (1997) argued that it is critical for research to examine the development of burnout not only for academic advancement but also practical implications for identification and intervention. The emergence of Leiter and Maslach’s model as the best fit to the current sample, and the consequential importance placed upon the exhaustion dimension, suggests that it is through this dimension that early symptoms are most likely to manifest. By initiating early intervention through the identification of such symptoms, this creates the opportunity to prevent the development of worsening cases of burnout. Cresswell and Eklund (2003) presented a practitioner model of burnout that details early warning signs, symptoms, consequences and strategies, and early signs of PEE include problems with injury and illness, physically tired, difficulty managing relationship with family and friends and feeling alone. Surprisingly despite the debilitative nature of burnout and potential impact on athletic performance, systematic monitoring and intervention work of athlete burnout has been largely unexplored (see Study One), and should be a pursuit of future research.

The exploration of burnout as a process is not however, without its challenges. Two significant issues for researchers to overcome are stability and the rate of progression. Since burnout appears to be stable across time, which is in line with its chronic nature, this has practical implications regarding the ability to predict the development of burnout and uncover causal agents (Schaufeli & Enzmann, 1998; Taris et al., 2005). Furthermore, it is typically viewed as a gradual erosion of energy but there is significant variability in the ‘slope’ of the erosive process not only across individuals but also occupations, organisations, industries, and possibly nations (Ashforth and Lee, 1997). Simply, some people burnout relatively quickly, some
burnout more slowly, and some never do. Ashforth and Lee observe that to date, there is no cogent theory for measuring the temporal dynamics of the onset and duration of burnout, the lags between causal effects, and the pace of progression, and hence this is a critical area for future development in the field of athletic burnout.
Chapter Four

Study Three: A qualitative exploration of the dimensions of athletic burnout
Abstract

Just over twenty years ago in his classic paper ‘Toward a cognitive-affective model of athlete burnout’ Smith (1986) posed a question that remains pertinent to athlete burnout research today, that is, the “extent to which the nature, causes, and consequences of athletic burnout are unique and to what extent they are shared by those who suffer burnout in other domains of activity” (p.44). Cresswell and Eklund (2006a) also observe that “the notion of burnout as a syndrome has been transposed into sport with little consideration about how the syndrome might be manifested within the context of (and relative to) the demands of the athletic environment” (p.220). Recent efforts within athlete burnout research have led to the advancement of an athlete specific conceptualisation of burnout (Raedeke, 1997) based upon Maslach and Jackson’s (1981) original work from the professional domain. Raedeke (1997) undertook a contextual analysis of the demands of the athletic setting which resulted in the modification of the three dimensions to physical and emotional exhaustion, sport devaluation and reduced athletic accomplishment. There has however, been limited exploration of the nature and characteristics of these dimensions, and moreover it has been proposed that understanding of the dimensions may be furthered through the examination of associations and inter-relationships between them (Shirom, 2005; Taris, Le Blanc, Schaufeli, & Schreurs, 2005). The purpose of the present study therefore was to further validate and expand Raedeke’s (1997) three dimensions of athletic burnout with specific reference to their key characteristics and manifestations, and to explore the inter-relationships between the dimensions.

A collaborative interview approach (SCIM – Scanlan Collaborative Interview Method) (Scanlan, Russell, Wilson, & Scanlan, 2003) was employed with a sample (n=13) of elite British athletes who withdrew from their sport as a result of burnout. Key manifestations associated with the physical and emotional exhaustion dimension included: exhaustion; negative affect; illness and injury; lack of recovery and energy depletion. Five major manifestations of the sport devaluation dimension emerged as motivation, lack of enjoyment, negative attitude, relationship difficulties and withdrawal. Finally reduced athletic accomplishment was most strongly associated with two manifestations which were, reduced performance accomplishment and reduced self-efficacy. Traditionally the reduced accomplishment dimension of burnout has been marginalised in comparison to the other dimensions (Cox,
Tisserand, & Taris, 2005) but athletes in the present sample described this dimension as particularly salient to their experiences of burnout, and it was proposed that this may reflect the influence of contextual features of the sport domain on athlete burnout.

Athletes associated physical and emotional exhaustion with their early experiences of burnout, and identified a significant relationship between this dimension and reduced athletic accomplishment. The relationship appeared bidirectional in that athletes linked feelings of exhaustion with performance issues (e.g., erratic or declining performance), and attempted to combat frustrations with performance by training harder, the resultant effect however, was to exacerbate experiences of exhaustion. Sport devaluation was then considered to be a consequence of the exhaustion and accomplishment dimensions. Implications and future research directions are discussed.
Introduction

Historically the most popular definition of athlete burnout has been "a psychological, emotional and at times physical withdrawal from a formerly pursued and enjoyable activity in response to excessive stress or dissatisfaction" (Smith, 1986, p.39). In his classic paper 'Toward a cognitive-affective model of athlete burnout' Smith advanced both this definition, and a Cognitive-Affective Stress Model of burnout but also posed a question that remains pertinent today, that is, the "extent to which the nature, causes, and consequences of athletic burnout are unique and to what extent they are shared by those who suffer burnout in other domains of activity" (p.44). Twenty years on Cresswell and Eklund (2006a) observe that "the notion of burnout as a syndrome has been transposed into sport with little consideration about how the syndrome might be manifested within the context of (and relative to) the demands of the athletic environment" (p.220).

Arising principally from criticisms of Smith's (1986) definition and the absence of universal agreement of what is actually meant by burnout within the athletic context (Dale & Weinberg, 1990) Raedeke (1997) pioneered an athlete specific definition. Proponents of Raedeke’s definition argue that it is unclear how Smith’s (1986) definition differentiated between athletes who withdraw from sport as a consequence of burnout, and those who leave for other reasons (Raedeke & Smith, 2001). Raedeke’s definition is framed within the most widely accepted conceptualisation of burnout from the parent work-based literature by Maslach and Jackson (1981). The authors described burnout in terms of the delineating characteristics, that is, the common signs and symptoms associated with the syndrome and these formed the basis of three separate but related dimensions: emotional exhaustion; depersonalisation; and reduced sense of accomplishment. The exhaustion dimension is considered to be an experiential state, depersonalisation a coping strategy, and reduced accomplishment as an outcome of burnout (Schaufeli & Taris, 2005).

As the definition was originally developed for application specifically to the helping professions, Maslach (1993) warns about over-extending the definition outside the human services, and states that modification may be needed to fit a particular context (Raedeke et al., 2002). Likewise Schutte and colleagues (Schutte, Toppinen, Kalimo, & Schaufeli, 2000) observed that although underlying characteristics remain constant, the syndrome may manifest slightly differently
across settings. Considering potential differences between work and sport, Raedeke (1997) modified the dimensions of burnout proposed by Maslach and Jackson for use within the sport context. Emotional exhaustion became physical and emotional exhaustion (PEE) which is associated with intense training and competition. Reduced sense of athletic accomplishment (RA) replaced reduced accomplishment and relates to an athlete's skills and abilities, and failure to achieve personal goals or performance below expectation. Finally depersonalisation was not identified as salient within athlete experiences, and sport devaluation (DV) became the third dimension in athlete burnout. Devaluation refers to a loss of interest, “don’t care” attitude, or resentment towards performance and the sport.

Despite the widespread popularity and acceptance of Maslach and Jackson’s (1981) conceptualisation of burnout, it is not without its critics. An area of significant debate has been dimensionality and three key questions in particular: Do three dimensions suffice? Are the three dimensions the right dimensions? Are three dimensions too many? (Schaufeli & Taris, 2005). Emotional exhaustion has repeatedly been identified as the central component of burnout, followed by depersonalisation (Taris, Le Blanc, Schaufeli, & Schreurs, 2005). The role of reduced accomplishment has historically been less clear than the other dimensions, and consequently it has often been marginalised, and in some camps its removal has been advocated (Cox, Tisserand, & Taris, 2005). In some studies emotional exhaustion has been used as the sole measure of burnout (e.g., Raedeke, 2004; Reinboth & Duda, 2004). Proponents of the three dimensions argue that it offers ‘conceptual richness’ (Leiter, 1993) and that a uni-dimensional perspective creates the potential for losing “sight of the phenomenon entirely” (Maslach, Schaufeli, & Leiter, 2001, p.403). Furthermore, a potential Achilles heel to the three dimensions, is that the Maslach Burnout Inventory (1986) which has been instrumental in the operationalisation of the definition “was not grounded in firm clinical observations or based on sound theorising. Rather, it has been inductively developed by factor-analysing a rather arbitrary set of items” (Taris et al., 2005, p. 239). Maslach herself acknowledged that the original research upon which the three dimensions was based, was unlike other research conducted in the workplace, that is, burnout research initially utilised a bottom-up or “grass roots” approach derived from people’s experiences in the workplace, through descriptive and qualitative methods including interviews and observations (Maslach et al., 2001). The term also originally emerged
as a colloquialism that both Freudenberg (1974) and Maslach (1976) came across through exploratory research (e.g., drug abuse, poverty law). The rationale behind its adoption was simply because it was easily recognised by interviewees in the human service professions (Schaufeli & Buunk, 2003).

Although Raedeke’s (1997) definition of athlete burnout and its operationalisation through the Athlete Burnout Questionnaire (Raedeke & Smith, 2001), present an exciting opportunity through which to advance knowledge and understanding of athletic burnout, it is important to remember that the basic framework of the three dimensions is an extrapolation of research in the human services context, and further validation in the sport context is needed (Raedeke, Lunney & Venables, 2002). The questions directed at why Maslach and Jackson (1984) advocate their specific dimensions could also be asked of Raedeke’s (1997) dimensions. The dimensions of athletic burnout have been explored quantitatively through studies employing a purposely designed self report measure the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001) but there are only two studies to date that have explored these dimensions qualitatively. Raedeke et al (2002) triangulated coaches’ experiential knowledge of burnout amongst swimmers with academic definitions to describe defining signs and symptoms associated with the dimensions athlete burnout. Findings confirmed that the dimensions of PEE, RA and DV coupled with signs of physical withdrawal, were key components of athletic burnout. Cresswell and Eklund (2006a) investigated the key characteristics and attributions of burnout amongst professional rugby players. They identified the three dimensions but concluded that further experiential data are needed to evaluate the nature of burnout and how it manifests amongst athletic populations. Although the field began through qualitative investigation, self report measures and quantitative surveys have come to dominate research (see study 1). There have been repeated calls for the use of more qualitative methods (Leiter, 1993) and mixed-method approaches (Dale & Weinberg, 1990) within the literature but such studies are comparatively few in number. A further issue for quantitative surveys is the observation that they have often been conducted on participants who do not in fact have burnout (Cox et al., 2005).

In addition to employing qualitative methods to facilitate a more in-depth exploration of athlete experiences of the three dimensions, Taris et al. (2005) and Shirom (2005) suggest an alternative strategy to furthering understanding of the
dimensions. Taris et al. propose that rather than considering the three dimensions as co-occurring phenomena to look at the associations and inter-relationships between them. The associations between dimensions have been explored in the work-related literature in terms of underlying causal mechanisms that aim to explain burnout as a process which manifests over time. The value of such exploration is to aid conceptual understanding, as well as the development of effective management and intervention strategies (Cordes, Dougherty, & Blum, 1997; Cox et al., 2005). In their original conceptualisation of the three dimensions Maslach and Jackson (1981, 1984) offer an explanation of how the dimensions are associated, and this has led to the development of a process model of burnout in which emotional exhaustion leads to depersonalisation, and then finally to reduced accomplishment (Leiter & Maslach, 1988). Study Two tested Leiter and Maslach's (1988) process model and two other competing models with an athlete population across an athletic season. The relationships between dimensions predicted by Leiter and Maslach's model were supported within time but not across time. Cresswell and Eklund (2006a) have also reported significant associations between the dimensions in professional rugby players. The purpose of the present study therefore was to further validate and expand Raedeke's (1997) three dimensions of athletic burnout with specific reference to their key characteristics and manifestations, and to explore the inter-relationships between the dimensions through the experiences of athletes who have lived with burnout.

**Method**

**Participants**

Thirteen British current (n=8) and former (n=5) elite athletes aged between 18 and 28 years (M = 23.57, +/- 2.97) participated in the study. Athletes were from nine sports including triathlon (n=1), swimming (n=2), canoeing (n=2), hockey (n=2), netball (n=1), rugby (n=2), athletics (n=1), tennis (n=1), and figure skating (n=1). Participants had trained and competed at an elite level for between six and fifteen years. An elite athlete was defined as an individual established as a competitive performer at national and/or international standard. The sample included four Olympians, and nine had attended World Championships. Seven athletes had retired from competitive participation in their sport. The length of retirement ranged from one to six years. Three athletes had retired from their original sport in which they competed internationally to pursue a career in a second sport where they again
competed internationally. The majority of the sample (83.4%) completed a University education, and 41.6% are currently full time funded athletes.

**Procedure**

A purposive sampling strategy (Patton, 2002) was employed to recruit participants. Potential participants were identified by coaching and National Governing Body staff at Loughborough University, UK where a number of national sport programmes are based. Staff were asked to identify athletes they had worked with who had experienced motivational loss and/or had withdrawn from competitive sport participation. Physical withdrawal has been identified as a key component of burnout in the sport context (Raedeke et al., 2002; Smith, 1986) and has been utilised as a sampling criteria in previous athlete burnout research (e.g., Gould et al., 1996a). Similarly, absenteeism and job turnover (i.e., physical withdrawal from work related roles) have been associated with burnout in the organisational literature (Schaufeli & Buunk, 2003). There has, however, been criticism that the term dropout (that is physical withdrawal from sport) has been used interchangeably with burnout, despite being distinct concepts (Smith, 1986). Although burnout may occur in conjunction with dropout, (i.e., when an athlete withdraws as a result of burnout) this is only one of many explanations for athlete withdrawal from sport participation (Gould & Dieffenbach, 2002). Cresswell and Eklund (2006a) argued that to enhance conceptual clarity within athlete burnout research burnout and dropout should be treated as separate, albeit related, constructs. The present study is in agreement with this perspective. However, the use of dropout as a sampling criterion is with the explicit intention of identifying individuals who have experienced severe cases of burnout which resulted in their departure from their sport. Gould et al. (1996a) stated that a formidable challenge confronting the burnout researcher is the ability to locate individuals with burnout. What lies behind this challenge is a notable pitfall of burnout research, known as the ‘healthy worker effect’ (Schaufeli & Enzmann, 1998). That is, most samples comprise only healthy individuals, because those who have experienced burnout have consequently withdrawn. This study aimed to target these individuals in order to learn more about burnout from their lived experience.

Following identification by coaches and National Governing Body staff 25 athletes were contacted by telephone for recruitment into the study. They were informed of the nature of the study, parameters of anonymity and confidentiality, and asked if they would like to participate. Eighteen athletes agreed to participate.
Participants were asked to read and sign informed consent and ethical clearance documentation and to bring them to their first interview. Following pilot work two phases of interviews were conducted with participants to explore personal accounts of athletic burnout. The first interview adopted a semi-structured approach, and the second used an adapted version of a collaborative interview method (Scanlan, Russell, Wilson, & Scanlan, 2003). Interviews were arranged to take place at an agreed location with the participant and recorded on audiotape.

**Phase One.** First phase interviews ranged between 45 minutes and 70 minutes in length and explored participant's athletic background including initiation in sport, accomplishments, motivation during their participation, withdrawal from sport, and post withdrawal (see Appendix 1). Example questions include: How would you describe your motivation at the time? During your early years, what was the most important thing that kept you playing/competing in your sport? The interview also served as an additional component of the sampling procedure to identify cases of athletic burnout. Specifically, it became apparent that some participants had not experienced burnout.

Previous athlete burnout research has advocated that due to the negative connotations associated with the term burnout within the sport community (i.e., Cresswell & Eklund, 2006a; Gould et al., 1996a), and the varied use of the concept across settings (Cresswell & Eklund, 2006a) that the term should not be used explicitly but instead explored through an indirect approach such as motivational loss or motivational problems. The first part of the interview adopted an indirect approach to explore athlete experiences of motivation within their sport but at the end of the interview the concepts of burnout and dropout were then outlined to athletes. Burnout was defined in athlete friendly terms through the three dimensions of athletic burnout outlined by Raedeke (1997) (e.g., physical and emotional exhaustion, sport devaluation, and reduced athletic accomplishment). Participants were asked to reflect on each dimension, identify if they believed they had experienced it, and give an account of their experiences. To conclude the interview, athletes were asked if they considered themselves to have experienced burnout or dropout, or to offer another explanation for their departure from their sport (Gould et al., 1996a; Silverman, 2005). Of the 18 athletes who were originally interviewed, five identified that they did not believe they had experienced burnout and subsequently withdrew from the study.
Interviews were transcribed verbatim and analysed to identify manifestations of burnout. Within the organisational literature there has been much confusion surrounding the differences between symptoms and consequences of burnout (Schaufeli & Enzmann, 1998). Consequently the term ‘manifestation’ has been used to encompass both (Schaufeli and Buunk, 2003). Schaufeli and colleagues identified five categories of manifestations including: affective (e.g., mood, aggression, anxiety, and frustration); cognitive (e.g., impaired memory and attention, rigid or detached thinking); physical (e.g., psychosomatic complaints, illness); behavioural (e.g., substance use, absenteeism, performance impairment); and motivational (e.g., lack of zeal, enthusiasm, and interest, physical and mental withdrawal, disillusionment) and these were used as guidance during the analysis process.

Transcripts were analysed individually by the principal investigator. A representative sample was then reviewed by a sport psychologist with expertise in burnout in sport, and a clinical psychologist with training and experiences of work-related burnout cases. Lists of manifestations were developed using raw data (quotes that captured a manifestation) from the original transcripts, and each list was discussed extensively by the three investigators until consensus was reached. The lists were then used to guide the collaborative interview approach undertaken in the second interview.

Phase Two. The second interview employed an adapted version of Scanlan et al.'s (2003) Scanlan Collaborative Interview Method (SCIM) (see interview guide phase 2). The authors of the SCIM proposed that it is a new methodology that “provides experimental rigor and generalisability combined with richness of detail, insight, and personal meaning” (p. 360), and that its development arose from “a need for a methodology capable of testing and extending existing theory with sufficient robustness to assess the hypothesised relationships while also revealing the underlying mechanisms at work” (p.362). The SCIM method uses a collaborative approach in which the participant and researcher work in partnership to capture a picture of the participant’s experiences on a collaborative interview story board. This approach was adopted in phase two of the interview process in order to gain a picture and tell the story of athlete experiences of burnout.

At the start of interview two participants were asked to consider the manifestations collected in their first interview (which were provided on individualised cards), and to identify whether each reflected something they had
experienced during their period of athletic burnout and eventual withdrawal from the sport. Any manifestations they did not consider relevant were disregarded. The set of manifestations (cards) the athlete had agreed upon then formed the basic framework of the collaborative interview board. To establish a detailed overview of their burnout experience, participants were taken through a pre-determined set of phases of exploration. First, they were asked to consider each manifestation in relation to the dimensions of athletic burnout developed by Raedeke (1997), and place them under a dimension they felt related to that manifestation. For example participant A placed “I constantly had throat problems, this, that and the other” under PEE, and “Not playing as you would want to and not feeling capable of playing as you would want to” with RA. If they felt it was not represented by any of the dimensions they were encouraged to create alternative categories however no additional categories were generated. They were also given opportunity to withdraw any manifestations they did not consider reflective of their experiences. For example a hockey player withdrew the statement that “My mum and me used to fight over stuff a lot at this time” as she did not feel this was representative of burnout but rather the relationship of her as a teenager with her Mum. Second, participants were asked to review the picture they had created under each dimension and summarise their experiences by identifying the defining manifestations. Third, once satisfied that each dimension reflected their experiences accurately participants were asked whether they could identify any inter-relationships or associations between dimensions. They were also asked how they thought these inter-relationships developed during their experience of burnout. Finally, an overview of the participant’s burnout experience represented by the collaborative interview was provided. The overview included a summary of each dimension and the possible links between dimensions identified. During this final phase participants were given the option of changing, adding or withdrawing any feature of their picture.

The interview and dialogue that took place around the construction of the story board were transcribed verbatim, and each story board was written up as an exact replica of the way in which it had been constructed by the athlete (see Appendix 4 for an example of an athlete story board). After the interview athletes were provided with copies of their story board and asked to verify the accuracy of the account captured.
Data analysis strategy

The analysis strategy for the SCIM approach emerges directly from the theory testing and expansion characteristics integrated into the structure of the method (Scanlan et al., 2003). Two analyses are conducted using interview data as source data. The first analysis directly tests existing model constructs. In the case of the present study this comprised participants agreeing and sorting their own manifestations of burnout in relation to Raedke's (1997) conceptualisation of athlete burnout (i.e., the three dimensions of PEE, RA, DV). Here the interview explored whether these dimensions were something that captured the participant’s experiences and resonated with them, or if they failed to do so. The second analysis aims to expand existing model constructs to include new facets derived from the participants. This also linked to the manifestations sorting task conducted by the participants and the story board picture they created of their own burnout experience, as well as, the opportunity to look at each dimension in detail and to raise any modifications or extensions athletes wanted to. With reference to the inter-relationships between dimensions discussed at length in the second interview, participants were explicitly encouraged to contribute to theory expansion through the exploration and reflection upon their own lived experiences.

Following the transcription and reproduction of the athlete storyboards, transcripts and storyboards were analysed thematically, using principles of content analysis recommended by Patton (1990). This approach has been successfully applied in previous research on burnout in tennis (Gould et al., 1996b). The content analysis technique was undertaken in an attempt to capture what it is like to live with each of the dimensions of burnout, and identify the major manifestations or characteristics associated with them. A separate analysis was conducted on athlete accounts of each dimension. The following step-by-step analysis procedure was used:

1. Transcripts were read by the principle investigator, and the taped interviews replayed so that the researcher was fully conversant with each participant and their experiences.
2. Raw data themes were highlighted within the main body of transcripts for each dimension and were presented in the usual manner; namely, a direct or paraphrased quote capturing a distinct idea/concept (Gould et al., 1996b).
3. Through an inductive process, common themes were identified in order to link smaller raw data themes. The coding system of identifying higher-order themes enabled the investigator to identify patterns of greater generality.

4. Throughout the analytic process elements of the constant comparative method were utilised, as advocated by Glaser and Strauss (1967). For example, as each piece of raw datum was selected, it was compared with raw data themes and grouped with raw data conveying the same meaning. In the absence of similar “meaning units” a new theme was created. This iterative process permitted continuous refinement of the results (Strauss & Corbin, 1998) and ensured raw data and higher-order themes were distinct and appropriately categorised.

5. Once higher-order themes had been identified, the investigator reviewed categorisation decisions. Raw data themes were checked to confirm that they did fit coherently into the broader theme, and that the descriptors that had been used to identify the higher-order themes made intuitive sense (Gould et al., 1996b).

In order to ensure the confirmability of the content analysis, the clinical and sport psychologist used in the first interview phase, read and reviewed the transcripts and story boards, and coded the data independently. Discussion was then undertaken until a mutual consensus was reached. For the inter-relationships between dimensions, the key pathways identified within the athlete interview transcripts were summarised by each researcher independently, and again reviewed and discussed until consensus was obtained.

**Trustworthiness**

According to Lincoln and Guba (1985) trustworthiness in qualitative research is to support the argument that the findings are “worth paying attention to” (p.290). Trustworthiness has been divided into four main facets, these are: credibility, transferability, dependability, and confirmability. Credibility (internal validity) concerns evaluation of whether findings reflect a “credible” conceptual interpretation of the data drawn from the participants’ original data (p.296). Transferability (external validity) relates to the degree to which findings can be transferred and applied to other areas or studies. Dependability (reliability) assesses the quality of the integrated processes of data collection, data analysis, and theory development.
Finally, confirmability (presentation) measures of how well the findings are supported by the data.

Trustworthiness was enhanced in the present study through a number of strategies. Credibility was enhanced through the nature of the SCIM method being a member checking process in itself, reliant upon the participant’s active involvement throughout the data collection and analysis process. Credibility was also enhanced through inter-rater reliability after each stage of the interview and analysis process. A principle aim of the SCIM method is theory testing and expansion, and hence transferability was enhanced through the use of this method for this explicit purpose. Again the member checking nature of the SCIM method, together with inter-rater reliability during both phases of interview added to the dependability of the procedure. Finally, confirmability was enhanced through the verbal discussion which took place between researchers at each analysis point, and assessment of inter-rater reliability.

Results

Findings from the two phases of collaborative interviews are presented as two separate parts. The first part provides an overview of the key manifestations of each of the dimensions of burnout (i.e., PEE, RA and DV). The second part presents participants’ descriptions of the inter-relationships between dimensions. See Table 7 for a summary of key manifestations for each dimension

Part 1: Dimensions of athletic burnout

Physical and emotional exhaustion (PEE)

All participants felt they had experienced PEE. Key manifestations associated with this dimension were grouped under five main themes, these were: exhaustion; negative affect; illness and injury; lack of recovery; and energy depletion.

Exhaustion. Feelings of exhaustion, tiredness and fatigue emerged as the most significant manifestation of burnout for all participants. Experiences of exhaustion were captured by phrases such as “I felt dead”, “heavy legged”, “I had nothing in the tank”, “I had no energy”, and I was “permanently lethargic”. Participants converged on the belief that fatigue was synonymous with training; it was a natural part and consequence of it. However the exhaustion associated with burnout was identified as something different, a negative form of fatigue or tiredness. As a swimmer explained:

To swim well you have to put the hours in and part of the reward is the
tiredness you feel at the end of a session. It tells you how hard you’ve worked and although you think “god I’m tired” you then start to think “how good I’m going to swim because I’ve put myself through this”. When you feel physically and emotionally exhausted it becomes something else. You can’t shake off the tiredness, it is always with you. You sleep more but it doesn’t help. You are just weighed down the whole time and everything is hard work, you feel heavy, and you get stuck in that place…..When it feels right and training is hard it is different to when training feels wrong and hard.

Table 7: Summary of key manifestations associated with each of the dimensions of athletic burnout

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<thead>
<tr>
<th>Dimension of Athletic Burnout</th>
<th>Manifestation</th>
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<tbody>
<tr>
<td>Physical and emotional exhaustion</td>
<td>Exhaustion</td>
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<td></td>
<td>Negative affect</td>
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<tr>
<td></td>
<td>Illness and injury</td>
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<td></td>
<td>Lack of recovery</td>
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<td></td>
<td>Energy depletion</td>
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<tr>
<td>Sport devaluation</td>
<td>Motivation</td>
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<tr>
<td></td>
<td>Lack of enjoyment</td>
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<td></td>
<td>Negative attitude</td>
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<td></td>
<td>Relationship difficulties</td>
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<td>Withdrawal.</td>
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<td>Reduced athletic accomplishment</td>
<td>Reduced performance accomplishment</td>
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<td>Reduced self-efficacy</td>
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A number of participants talked about the buzz they got from physically demanding sessions and that this was part of their motivation. Feelings of exhaustion began progressively to impact upon their ability to cope with training demands however. A triathlete recalled

It let me train at what I would say is 70% training. Plodding up and down, and then you could have a sprint set and do exactly the same. I am kind of made up that way with slow twitch but there was no zap, there was no change of gear, there was nothing, just going through the motions. It probably looked as though you were not putting much effort into it but you really were.
Participants responded to exhaustion in a number of different ways ranging from withdrawal or reduction of effort to heightened effort to “train through the lull”. The experiences of a hockey player provides a vivid picture of what was often described by participants as a “downward spiral” when they responded to feelings of exhaustion by working harder.

When you are completely physically exhausted, run down, shattered, then you can try and stay positive and try and keep going which is exactly what I did. You always think, no it will be OK or I'll just get a good nights sleep or, or I'll do something, but you always think you are a little bit invincible and you can just push yourself or get through it. But when you've got that kind of pretty debilitating, complete exhaustion, then you just end up, you can't actually win.

The gradual depletion of physical and emotional resources led to some participants experiencing what was described as being in a “black hole” or “dark place”. A swimmer explains what it was like to live in the black hole

Physical and emotional exhaustion for me is when you’re tired and you’re fatigued and you’re doing a set and it’s hard. You try and push on through but if you do, it’s almost like go into this massive black hole. If you keep going you will just stay in that hole for so long, and you’ll wonder how you’re going to get out of it....The hole feels like you can’t do anything, you don’t want to be there, you hate everything, everything is such a bind. It’s just like you get into a hole and it’s just like you’re depressed, it’s really weird, like I’d sit many times when I’d be in such a dark place, even life becomes a hard existence. Just getting up, just leaving your bed, because you are consumed by it so much.

The impact of exhaustion was also not restricted to training and competition but extended to other areas of life including relationships and time spent with family and friends away from sport. A canoeist recalled

Nothing seemed to make me feel better, I just felt this constant sort of drained effect, I would go into town and be exhausted just walking in so I would go straight home and lay down. My parents were getting really frustrated with me because I didn’t want to do anything apart from watch DVDs and lay on the sofa. We used to do lots of stuff as a family but I didn’t even have the energy to do that.

Negative affect. A second manifestation of physical and emotional exhaustion frequently reported amongst participants were changes in affect. Experiences of
feeling “depressed”, “frustrated”, “angry”, “down”, “overwhelmed”, and “irritated” were observed in most of the participants' pictures of burnout, and a number of participants commented that they had often been “teary”, “cried a lot”, “had changes in mood” and “felt lost and alone” at their worst moments of physical and emotional exhaustion.

Within the burnout stories presented by the athletes, although offering differing accounts of burnout, changes in affect appeared to be associated with three main factors. The first was being “mentally tired” or “mentally drained”. The athletes described becoming progressively depleted mentally and for some this was associated with physical changes they were experiencing. A canoeist explained that “because my body was so wrecked and I had no energy physically, I think that just wears you down mentally too”. Experiences of being drained were also linked to a second key factor of feelings of confusion and frustration associated with being unable to explain how they had come to be exhausted and performing poorly. A second canoeist described how confusion and anger developed for her “things just got to me. You are working hard and things are just not improving. You have no explanation for it and can’t see anyway out. It is so confusing because things should be working the same way as usual, you can’t help getting frustrated and angry and it kind of eats away at you”.

Thirdly, for the majority of athletes affect was strongly connected to performance. For many they described being able to cope with feeling mentally and physically drained while they could still produce a good performance. Good patches of performance served as a mental boost and could carry them through for a while. As a hockey player explained, this strategy is only effective for so long however.

And if you did manage to get through it on this kind of level of, you know, emotional and mental high, and you perform well then you would be emotionally and mentally a lot happier. You might be feeling sick physically but you'd be an awful lot happier, but you can only get away with playing like this for so long. After a while the good patches get fewer and nothing you try helps. When your game goes that’s it, you lose the ability to pick yourself up. 

Illness and Injury. Not all athletes experienced illness and injury as part of burnout but for some participants repeated bouts of illness and/or inability to fully recover from injury or illness was a central feature of their burnout story. A canoeist summarised her experiences succinctly as “I just never got fully well for more than
two years. There was always something niggling at me”. Four athletes believed that burnout had developed as a result of overtraining and they reported persistent symptoms including recurrent colds and flu, tonsillitis, muscle soreness, and sleep disturbance. “I know I was totally overtrained at the time, I did too much. For me I think the burnout thing was probably an inevitable thing. Once I became overtrained there became no way out” (Triathlete). Two athletes experienced illness and feelings of chronic fatigue over a period of eighteen months to two years that failed to be explained medically. They stated that the lack of explanation, together with constant presence of fatigue had been very debilitating mentally and exacerbated their feelings of emotional exhaustion. “I was just always tired and ill and no one understood why. You just want an answer and to feel recovered. It is hard to keep going in that kind of situation (Hockey player)”. Two further athletes had relatively short term injuries including sprains and bruises leading into the period when they considered they began to experience burnout but later sustained significant injuries including a broken ankle and broken cheek bone which had coincided with their departure from the sport. They did not consider that burnout had caused these injuries but the time they were forced to take off to recover was actually received as a welcome break from the sport. Where these athletes had previously described frustration and annoyance when they had been unable to train or compete earlier in their careers, when injury coincided with their burnout they expressed feeling “relief from not having to go training”, and that the injury “provided an excuse to take time off without people asking questions”. Furthermore, at this time athletes were beginning to desire a break from their sport but due to competitive and training demands, expectations of others including parents and coaches, and their own internal battles such as whether they should quit or could they still make it, they felt unable to communicate this to others and hence an injury legitimised time away from the sport. A swimmer explained

No one could understand the tiredness thing, they just thought I was lazy I think. And I guess I didn’t have the drive I used to have so people think it’s just something mental, they don’t understand. Being injured was a way out that I didn’t need to explain. You can see when someone is injured, it isn’t so easy to see how a person is feeling inside.

The journey back from injury was unsurprisingly often hard for these individuals, and some felt they never got back to pre burnout level of form of fitness. “I tried to
make it back at first after the first ankle injury but then doing the same injury again three times consecutively kind of starts to finish you off. I made it back to playing but I wasn’t the same player, I had lost my edge I think”.

_Lack of recovery._ Participants spoke about a lack of both physical and mental recovery connected to their experiences of PEE. Initially feelings of exhaustion were attributed to insufficient recovery but the athlete stories also explained that once encountering more intense feelings of physical and emotional exhaustion it was difficult to feel any sense of recovery even when rest was taken. As a result of the continual feelings of tiredness the main recovery strategy athletes engaged in was sleeping. Individuals began to sleep for longer periods but the quality of sleep was often poor and they frequently described “going to bed, and waking up just as tired”. One rugby player talked about his waking thoughts as he got up each morning for training -

_I would open my eyes thinking oh god not another day. Oh no I’m tired and I’ve got to do it all again. I used to get tired from training before the burnout but I would wake up then thinking great a new day, let’s go. But now I’d be like oh no not training, not school, it was just training, school, training, school...._

The same player also described how his feelings of exhaustion and a “heavy legged-ness” he associated with it, resulted in a recurrent dream that led to significant sleep disturbance and further failure to recover from physical demands.

_I would have this dream that I got the ball and would be heading for a try and my legs couldn’t move and I looked down at them and they were jelly. I mean literally like jelly. Or sometimes they would be empty. Like you would look below the skin and there was no muscle there but just an empty space._

_Energy depletion._ This manifestation was further subdivided into the experiences of having no energy or as it was repeatedly phrased, “the tank was empty” and feelings of “numbness” or “emptiness”. These subdivisions of energy depletion, although separate, were seen by athletes to be related. In their stories athletes expressed that feeling like they had no energy left and the tank being empty, preceded and led ultimately to, feelings of numbness which marked a final stage of exhaustion for them.

Participants often used mechanical references when describing their energy level which included “the engine being burned out” and “no change of gear”. These
experiences were also associated with a sense of being unable to inject any additional effort and simply going through the motions in training and competition. A triathlete recalled how her lack of energy impacted race performance directly “there was a point in races where I couldn’t work any harder but there was nothing there. There was no zap. It was just dull”. And a rugby player explained how she adapted her performance in order to conserve the limited energy she had.

I just didn’t have the energy and so think I began to try to conserve myself a bit which is no way to play. You get scared to make a tackle or chase back because you know you are going to be knackered. I remember a game at Litchfield when the coach shouted at me for hiding. He reckoned I had not supported on a try drive when I should have. I did fall out with him about it because I thought I had been trying but I think he probably had a point.

In more advanced cases of exhaustion athlete stories illustrated the progression from a state of depletion to a state of being “numb”, and seemingly devoid of energy, emotion and sensation. In this state of numbness or emptiness individuals described reaching a point when they simply felt nothing and were completely exhausted. As a swimmer described -

I guess I didn’t know how to feel. You can’t quite describe it. I mean it is hard to describe. It was like being drained or empty, you feel low but at the same time you kind of feel nothing. Yeh I can actually say I got to a point when I felt nothing. I wasn’t upset with people any more and not even upset with swimming, I just felt neutral, numb.

Other examples of the emptiness athletes experienced included a canoeist’s account when exploring burnout immediately ahead of her departure from canoeing, “it culminates ultimately in just being totally worn out and the numbness that I talked about is what’s left. You kind of have nothing left, no energy”, and a netball player “when I was at my complete lowest, and didn’t sleep, I hardly ate, I had no energy and that’s what I mean when I say the life was just drained out of me and that’s when it felt the worst, just completely empty”. As these two examples illustrate, for some athletes physical and emotional reserves eventually become almost entirely depleted resulting in a sense of emptiness. Others however, also described a situation in which they consciously decided to cope with the exhaustion they were experiencing by switching off to it. A figure skater described how he reached the point when “I decided that this was not going to hurt me so much and I just allowed myself to
become numb to everything”.

An additional finding to emerge from the pictures of physical and emotional exhaustion, and the subsequent discussion around them, was a division of this dimension into physical components and emotional components. Three athletes believed that they had predominantly experienced an emotional form of exhaustion, and were either not aware of any physical manifestations, or at least not until the later stages of the syndrome. Physical exhaustion and other physical symptoms associated with it such as fatigue, sleep disturbance, inability to recover and illness were generally common features of the early experiences of burnout for the other participants. These physical manifestations seemed to become increasingly debilitative for participants and progressively emotional symptoms began to emerge that were linked with physical changes affecting athletes. A hockey player explained their experiences of how PEE were linked but separate components of burnout.

The physical part is about the tiredness and at first when you’re coping and still producing some good stuff on the pitch, you are ok emotionally. But later the emotional bit is just like I said you get to a point where you’re just battling, battling, battling the whole time and I think that’s what pretty much leads to you feeling a bit, a bit, like on the depressed side. It’s just this constant battle and you keep getting knocked down again and again, until you can’t get up anymore and mentally I guess you give in. I gave in.

Although athletes advocated that PEE should be considered separate elements of burnout, they did see them as being integrally linked. A triathlete provided a useful example of this link.

They are different. The physical affects the mental. If the physical was not there then it would not affect it and you’d be fine. They are quite strongly linked. If you are in a positive mood you feel better but when you feel drained and dead, mentally you are lacking as well. You are just not switched on at all.

As reported earlier, physical exhaustion was generally the most significant manifestation of burnout in the early stages, and was a major feature of burnout in most of the cases explored. However a number of athletes commented that it was when things began to become stressful at an emotional level that life in their sport became very difficult to handle, and feelings of physical exhaustion were significantly exacerbated. A swimmer summarised this experience in the following statement
I think they are linked, but I think more so, you can be physically exhausted and not emotionally exhausted, but I don’t think you can be emotionally exhausted and not physically exhausted. I think the emotional stress makes the physical exhaustion worse, by a long way.

*Sport devaluation (DV)*

Athletes displayed varying intensities of DV within their stories. For some it was described as almost an inevitable consequence of being exhausted and/or repeatedly failing to perform. A rugby player captured this experience of devaluation in commenting that -

I guess this devaluation thing was just the result of everything else. You can only take being tired all the time and playing badly for so long. I stuck it out as long as I could but in the end it starts to switch you off and this is how you start devaluing the sport I guess

In more severe cases of burnout feelings of DV were often intense and continued to influence the attitudes athletes possessed towards their sport, and their reflections of experiences within it, even today. For a tennis player strong feelings of DV were represented by the statement “in the end I hated it. I haven’t picked up a racket in five years and have no desire to now. I don’t even want to play for fun”. Despite the variation in intensity with which DV was experienced, it was confirmed by each participant as an important part of athletic burnout. Athlete pictures of devaluation centred around five major manifestations: motivation; lack of enjoyment; negative attitude; relationship difficulties; and withdrawal.

*Motivation.* “The change in motivation was the biggest thing. You don’t want to do it any more. The fun and enjoyment are gone and you’re forcing yourself. Yes the drop in motivation is it really” (rugby player). As this rugby player summarises, motivation, or more specifically a loss or change in motivation, was the most prominent feature of DV for all participants. The background sporting history of each athlete had shown a time when they had “loved their sport” and had “lived and breathed it”. For one tennis player she described how family holidays were organised around which hotel had tennis courts because she hated being away from the court. This sentiment was echoed by the majority of participants, and they spoke animatedly about periods when they had been forced to have time away from their sport due to injury, educational or other commitments. At this stage of their career athletes were highly motivated and described “loving it”, “I didn’t want to do
anything but just train or play”, “It was when I was the most happiest”, and “my sport was the best thing I did, I didn’t want to do anything else”. One track and field athlete exemplified the level of athlete motivation when talking about training on Christmas day and cycling the eight miles to training when her parents were unable to drive on Boxing Day due to having too many Christmas drinks! Time away from the sport led to frustration, agitation and annoyance for athletes and they felt “desperate to get back”. The eagerness to return to the sport was due to their love for it but also a sense of potentially falling behind others if they took too much time off. They did not associate this with any major external pressure from coaches or parents but rather the pressure they placed on themselves to improve and progress. Many participants talked about “wanting to go to the Olympics”, “being the best” and “being number one” in their respective sports.

The motivation of each athlete shifted to the other end of the continuum as burnout developed. Athlete’s described their own change in motivation through phrases including “I lost the drive, the passion”, “I had had enough”, “I didn’t want to do it anymore”, “I started dreading training”, and “It was just too much, I couldn’t stand it anymore”. A swimmer who had been a three time Olympian recounted the change in motivation he experienced in the year following his second Olympics “I lost the drive. The Olympics had been the dream but then I just didn’t want it any more, didn’t want swimming”. As with athlete experiences of exhaustion, motivation declined steadily over time and ahead of their departure from the sport, it culminated ultimately in a feeling of not wanting to be involved in their sport. Initial signs of motivational loss were depicted in athlete stories through them questioning their own motivation as well as their sport participation more generally. Athletes began to ask “why am I not enjoying this?”, “why don’t I love it anymore?”, “why am I not bouncing in training any more?” and steadily this progressed onto questions relating to whether they should continue their involvement in the sport, “why am I doing this?” and “why am I bothering?”. Two athletes spoke about changes in their motivation marking key turning points in their experience of burnout. As motivation continued to decline they reported reaching a point when they felt they just could not go back and could not recover their motivation.

I just really didn’t want to go back. I didn’t want to canoe. I had spent a lot of time thinking about canoeing over the summer but it didn’t make me want to go back. I just really didn’t want to get in a boat, and the thoughts of those
threshold sessions, or early morning, no way, I didn’t want that any more. It was a kind of dread as September came round. (Canoeist)

On top of that in the back of your mind you’re thinking I don’t want to be here. You get to a point when the lack of enjoyment has been going on for so long that you kind of turn a corner, and there is no way back. You can’t get that enjoyment or motivation back. It’s just got to the point when you don’t really care, it is negative. (Hockey player).

Finally the loss of motivation was not restricted to sport involvement as a figure skater explained.

If you feel like that you are just not motivated to do anything. Not even skating, I wasn’t motivated to do anything. I lost motivation for everything. I would have stayed in bed all day everyday if I could. I just didn’t want to do anything, it wasn’t just skating. I just felt run down.

Lack of enjoyment. A second manifestation athlete’s felt was an important part of DV but which was also strongly connected with motivational loss was a lack of enjoyment of sport participation. Athletes talked about becoming “bored”, “fed up”, “got sick of things”, or “not enjoying it”. This led to them often feeling that they were “going through the motions in training” or “clock watching to get through sessions”. Participation had become routine and although individuals had experienced periodic moments within their sport career when enjoyment was less, during burnout the lack of enjoyment became progressively more salient moving from predominantly training based, to competition also. Both a figure skater and track and field athlete talked about their love of competition and the performance environment. “I loved being in front of a crowd, it is like putting on a show. I really enjoyed that side of the sport” (figure skater). “The competitive environment is where you really get tested, it is why we spend all the time training and where I would get most reward and enjoyment” (Track and field athlete). For these athletes their lack of enjoyment was first associated with tough training sessions such as early morning starts or evening sessions in the gym. They found themselves still looking forward to competing but as burnout began to take hold, the enjoyment in this arena also waned until as the figure skater recalled “It even started to affect me in competition. I just could not get up for it and I had lost my desire.Competing became not fun any more. You feel rubbish and skate rubbish and that just isn’t
enjoyable is it?”

**Negative attitude.** Interviews were conducted retrospectively but many of the participants were still very impassioned about their experiences in the sport, and a number spoke critically about the period in which they experienced burnout. These manifestations of the DV dimension of burnout combined to form what was described by athletes as a “negative attitude” towards their sport, and this was characterised by three principal expressions: “don’t care attitude”; “resentment”; and “hating sport participation”. The don’t care attitude related to how individuals felt about their own participation and tended to impact attitudes towards, effort exerted in, and levels of perseverance shown in training, as well as the meaning and importance attached to competition. For some the development of a don’t care attitude was a consequence of the cumulative effects of a range of factors that led athletes eventually to simply give up. One rugby player observed “I think I am pretty positive but with the exhaustion and continually playing badly you do get to a point when you just kind of give up”, and a tennis player highlighted

I think the major thing was the frustration and not enjoying it. It gets to a point when it is really is not enjoyable. You feel physically tired and you just don’t have any energy to do things and I think this is why it gets less and less enjoyable. At first I was so frustrated with being ill all the time and because I was playing so badly but you do reach a stage when you simply stop caring I think. You give in to it all.

In other cases athletes appeared to use the development of a don’t care attitude as a form of defensive coping strategy. The experiences of a young canoeist and triathlete provide insightful examples of such coping

Yeh I didn’t care. I didn’t want to be around canoeing or training or racing. I needed a break from it and feeling the way I had been feeling. You start to associate feeling crap with canoeing and so start to feel crap towards canoeing. It is like the thing that is hurting you most so you want to distance yourself from it. (Canoeist).

Well I guess you do get to a point when you think I can’t do this anymore. When I was at Uni in particular. I just didn’t feel like myself anymore, and in general really. It’s also hard to know if this is coming from you or people around you. I did want to give up but I was a bit scared because my parents had
given everything to it, and everyone had invested so much time in me. It’s hard to know if that influenced not wanting to give up. It wasn’t a happy time, so I just wanted to leave it because no one wants to be unhappy do they?

(Triathlete)

Resentment towards sports and sporting experiences were common responses associated with DV. In some cases, individuals became highly emotive during the interview process about the negative times they felt that had endured within their respective sport. The resentment was not simply directed at sports globally but focused on a range of issues including lack of social support (e.g., “there was no support”), coaching issues (e.g., “the coach just didn’t care”), lack of recognition (e.g., “I became invisible”), favouritism (e.g., “when you perform well it is all great, once you don’t, they don’t want to know”), overload (e.g., “they made us do too much too soon”), injury management (e.g., “my injuries were not well managed”, and “expectations were too high”), and unfairness (e.g., “They changed things last minute with no warning and told five of us we were fighting for two spots on the team”). A common thread linking many of the grievances voiced by athletes was the feeling that they were not cared for or valued, athletes felt dispensable. Five individuals reported that they continued to feel resentment toward the sport and had been unable to return to participation within it at any level, four returned to the sport but changed either coaches or training location, and the remaining three elected to change sports and achieved national representation in a second sport.

In addition to resentment that was directed at the sport around organisational issues such as support, athletes also talked about resentment in terms of the sacrifices they had made to participate in their sport. A netball player and a hockey player provided vivid examples of these feelings of resentment in their stories.

It’s like, you know, it’s basically when you’ve devoted so much time to one thing and at the end I honestly felt like I got nothing out of it. You can pretty much always get positives out of a situation, and I did have some good experiences. But in the end none of that mattered to me because I hadn’t got what I wanted out of it. I blamed them for that but it just made me so angry as well that I’d invested so much time into something and essentially it was someone else that had taken it away from me I felt. (Netball player)

Having the resentment also came from after having given up years and years
and years and made all those sacrifices that you make for international sport, and in many cases giving above and beyond. Also to then not get anything back from them when you need it most, to not get a phone call. Nothing just no contact, no support. I decided I was more important than that and wanted more from life. (Hockey player)

Finally the experience of burnout was highly emotional for a number of athletes and was associated with pervasive emotions including anger, frustration and aggression. A swimmer described her anger "I'd get so mad that I'd knock the lockers in the changing rooms so hard. I would punch the locker until my hand would bleed". For these individuals these strong negative emotions ultimately led to feeling hatred towards their sport. A key reflection appearing across the athlete stories was that they each felt "I had gone from loving it to hating it" (netball player).

Hating the sport also appeared to impact the behaviours of some athletes in that they felt "isolated from my team", "I had a bad attitude and acted it out on poolside", "I became more aggressive on the field, even towards my team-mates", and "I would just ignore the coach". The strength of feeling for two senior athletes caused them to behave out of character by, in the first case, telephoning a Team Manager ahead of the team meeting at an airport to fly out to an international competition and telling them they would not be coming, and in the second case leaving a training camp and flying home without notifying anyone.

**Relationship difficulties.** Athletes described experiencing relationship difficulties which they associated with the DV dimension of burnout. These relationships tended to be those based within the sport with key individuals including coaches, management and team-mates. Relationships outside sport which mainly involved friends and family were in most cases supportive and positive. Difficulties in relationships with coaches were the most commonly reported and often the most troublesome for athletes to cope with. This was because coaches were either blamed for causing the athlete to experience burnout, or because they were the person closest to athlete within the sport context and were often the person athletes would express emotions and concerns to most. Blame that was assigned to coaches related to overload (e.g., "The programme was just too much"), coaches not caring (e.g., "When I wasn't there he didn't even notice"), pressure (e.g., "The coaches just watched you all time, evaluating everything"), and negative feedback (e.g., "He was just never happy"). Athletes did acknowledge instances however when coaches had
attempted to be supportive but they had refused their help. A canoeist gave an account of her role in bringing down the breakdown in her relationship with her coach.

He tried to help I know he did but he couldn’t. He was part of the problem. Not him directly but the sport. I kind of associated him with the sport and at that time everything I associated with the sport was bad. It was about a year and a half after I quit from burnout that I spoke to my coach again. He did try to get in touch before but I couldn’t bring myself to speak to him. But the thing I am most grateful for though was that when we did meet up again, the first thing he said was that we didn’t need to talk about what had happened unless I wanted to. I never did.

Withdrawal. The manifestation of withdrawal appeared in athlete accounts at two distinct levels. The first related to withdrawal which was associated with the time when athletes were living with burnout, and emerged as a coping strategy to deal with how they were feeling. The second level concerns the actual departure of athletes from the sport. As identified earlier some athletes eventually return to the sport while others became involved in a different sport or withdrew from competitive sport entirely. Withdrawal as an interim coping strategy when athletes were burning out included: absenteeism from training; social distancing from team-mates; taking a time out; and engaging in social activities outside sport to provide escapism. However, in some instances this served to exacerbate feelings of DV. A figure skater described how he began to skip training sessions as a way of coping with exhaustion but found that this heightened DV as no one noticed his absence and did not appear to care that he was not there.

Like I said before progressively I started to miss sessions, and they didn’t even miss me, or care if I was there. My Mum would drop me off in the morning half an hour before training to warm up and I would go sleep for half an hour in the changing room. I would often sleep right the way through because I was so exhausted and no one would notice. I could miss two or three days and they wouldn’t even ask where I had been. They didn’t even acknowledge it. That was probably a major part in this whole thing, just no recognition of what was going on.

Athletes highlighted that they often felt distant or isolated from team-mates and others within their sport but were uncertain whether they had chosen to distance
themselves as a result of DV (withdrawn), or whether DV caused them to feel like an outsider. A triathlete recalled

A lot of it was about myself but later on I did start to think and be negative towards others. I guess I felt outside of swimming a lot of the time. When you feel like a bit of an outsider that makes you pull back further I think, so I don’t know if that had something to do with it. I didn’t hate the coach or anything, it’s hard to know because I definitely stood back from the sport. I also think that way I felt less hurt by the sport and that people would judge me less. I could just get on with things.

For other athletes they achieved social distancing through recreational activities outside sport. A swimmer noted how he had used socialising and drinking as a way to deal with the negative things he was experiencing in swimming. He also identified this as a self preservation strategy that he was able to hide behind and attribute his declining performance to.

I think because I was younger then I dealt with it for a time by going out drinking and socialising with mates. Drinking and partying helps take your mind off it. And I guess it gives you an excuse for why you’re training and racing badly. People think it is because you are out partying and not because there is something else really wrong. I supposed I believed that for a while too.

For all of the participants DV was strongly linked to their eventual decision to withdraw from the sport. It was not the only variable but the loss of motivation together with the development of negative feelings towards the sport and their continued participation in it, were significant features of all athlete stories. The decision to quit, or take a break from the sport, seemed to coincide with the recognition that remaining in the sport was not healthy and for many of them was a barrier to their happiness. A tennis player offered this useful summary

It’s not just about not wanting to be there but you can’t be there any more. You have nothing left to give and you’ve had a lot of hurt from the sport through working your tail off and nothing coming together. It didn’t matter how hard I worked, things just kept on slipping. For your own preservation you have to get to a point and say “This isn’t worth it”.

The circumstances under which athletes left their sport were varied but two particularly poignant accounts were offered by a netball player and hockey player.

I was playing and I just couldn’t see the ball because I just had tears rolling
down my cheeks. Every reason why I wanted to quit netball was on the court, and I just couldn’t cope with it and I just completely fell apart. It wasn’t like sobbing or anything like that, I just had tears running down my face and I just walked off the court and I just left in the middle of the game. And I never went back. (Netball player)

I got sick to death of it and just couldn’t do it anymore, didn’t want to. I remember me and my mate quit about the same time and we were on the beach at home one day. At the time we both still carried our sticks in the car and we decided to get our sticks out. I don’t know why but we got the sticks out and went down to the sea and broke them up in little bits and threw them into the sea. It was just like some kind of ceremony between us because we had been playing together since we were about six. It was like, that’s it no more, and I have not held a stick since. Not for about six years now.

Reduced athletic accomplishment (RA)

All participants identified RA as a central component of their burnout experience. This dimension was vividly expressed in athlete stories through two main manifestations, these were: reduced performance accomplishment and reduced self-efficacy. Athletes commented that these manifestations comprised distinct aspects of burnout and proposed that the dimension be further subdivided by them.

Reduced performance accomplishment. Overwhelmingly athletes spoke of the significant role that performance and results played in their athletic experiences generally, and periods when performance plateaus or declines, being emotionally demanding for any athlete regardless of whether they are experiencing burnout. A tennis player spoke of the pressure to perform on players due to the ranking structure of tennis.

When everything is based on your world ranking then it does just put a lot of pressure on. You think oh no I've dropped down like 6 places this week or something like that. So it does kind of create stress, because then you're like “am I going to get into this tournament”, “am I going to be able to do this?”. And you get set specific targets like say if you hit 350 in the world then you will get this, and if hit this next ranking then you get something else. It's quite hard because, in the end, it's all about the rankings and that's all. If you're not performing, you and the rest of the world know about it.
With the exception of one athlete, participants stated that changes in their performance that continued over a sustained period were one of the first indicators that raised their awareness that something was wrong. A sprint canoeist provided this example of the significance of performance to her experiences of burnout.

As an athlete everything is dependent on results. If you are not paddling well you pick up on that pretty fast. And in a race the feedback is immediate, quickly people are stretching ahead of you and you feel yourself going backwards. When my performance slipped and continued going from bad to worse, Yes, then I knew something was not right.

Other examples of athletes becoming aware of performance issues included “I was not winning”, “I was getting beat by people I should not have been beaten by”, “I was not hitting the times in sets”, and “Not playing as you would want to and not feeling capable of playing as you would want to”. Athletes reported experiencing lack of improvement, underperformance, inconsistency in performance, and decrements in performance over a period ranging from several months to three years. These changes in performance were more often than not reported together with other manifestations of burnout such as exhaustion but athletes explained that they felt they were able to cope with feeling exhausted when they were still achieving results.

Once failure or underperformance began to become more frequent, athletes found it significantly more difficult to cope. A swimmer explained

I think I worked through with the exhaustion for a long time. As an athlete you are kind of used to being tired, and it is ok when you are still racing well. But when you start to fail that’s when I think it all really kicked off for me. I started to see it in training but it was ok because it was still ok when I raced. I went to Germany to race in 2003 and I got beaten. I don’t mean I lost, I mean I got beaten. I felt like I had no way to respond to the field and with fifty metres I was hanging on and it was slipping, slipping, slipping. As a senior I don’t think I had ever experienced that before. I was no where. I felt rubbish before the race and training had been rubbish. That race scared me and I think looking back it was probably the start of things getting really bad, although I didn’t know it then.

Reduced performance accomplishment in training was often associated with a lack of progress or improvement, or being unable to complete sessions fully. A rugby player remarked that their gym training had seen “a total halt in progress. My
technique hadn’t changed and the season before I had been lifting the same set of weights with no difficulty whatsoever. Now I was just plateauing, or worse still, had to drop the weight”. A swimmer echoed these experiences in their observation “I had to stop some of the land based work because I just couldn’t do it. I would get more and more frustrated, and felt terrible because I was struggling bad. These were sets that I was smashing last year, and this year the weights felt like ten tonnes”. When discussing reduced performance accomplishment within competition participants talked more in relation to the outcome of their performance in win: loss terms, as well as skill execution. A hockey player described vividly their experiences on the pitch as they struggled to hold their performance together in games

Not playing well it was almost like your timings out, you’re kind of playing in slow motion you just feel shattered. You feel you're running as fast as you can but you're not really going anywhere. Skills that you never would have thought about, you’re bobbling balls you would normally control with no thought at all, you’re just not seeing passes and stuff that you normally would. It was just, everything is just so much more of an effort and just not going well

In addition to athletes being unable to perform effectively in training and competition, another observation made by participants of this dimension, was that it was often accompanied with a lack of understanding of why performance was suffering and what to do about it. A track and field athlete recalled “I supposed it was, probably about kind of the second season of seeing little improvement. You just think, what’s going on? What’s this all about? I’m training really hard and you look for reasons and you look for rationale and there is none.” For a number of athletes this led to feelings of frustration and anger, as illustrated by the comment of a rugby player

I remember just getting so frustrated in the gym that my lifting was going badly that I’d throw my stuff around and have to go sit in the core area and cool off. I got so mad so quickly. It was like a ball in the pit of my stomach and I can kind of feel it now. I was just so mad. I was still working hard to get better but it wasn’t happening. I was mad at myself and everyone because I couldn’t do it

For others the lack of accomplishment evoked feelings of anxiety and isolation. A swimmer made the observation from reviewing his experiences that “You’re hanging off the back and when you realise how far off the back you are it is pretty lonely out there and scary because you don’t know how you got there, and worse still, how to
get back”.

**Reduced self-efficacy.** Both in terms of the RA dimension, as well as the other dimensions of athletic burnout, participants spoke a lot about the importance of confidence in their experiences of burnout. A recurrent theme presented in the athlete stories was that as a consequence of burnout, confidence related to performance was lowered. Through being unable to train effectively athletes found that they would often begin to experience anxiety around competition, and failure to perform in competition, further reinforced feelings of anxiety and low self-efficacy. A swimmer talked about how poor performances in training led to the development of doubt, and a lack of trust in his body and its ability to perform in races.

I think the fear of racing was pretty massive for me. I had never feared racing before, I used to love the crowd, still get the tingle now when I think about it. But I remember ahead of Olympic trials being so scared not just because it was trials but because I didn’t trust myself. I have to be able trust my body and I think because of my lack of quality training, and feeling rubbish physically, I had lost my trust in it. I didn’t know what performance was going to be like. I went through a phase of real unpredictability, and you end up thinking “ok so what is gonna happen today?” and “please let this be a good day”.

A rugby player observed how he felt his lowered confidence caused him to stay in a comfort-zone reducing the likelihood of mistakes and criticism from coaches.

I was afraid to try stuff for as start. People were trying out new skills and stuff but I just wanted to stick to things I knew I could execute. It really held my game back a lot. I would shy away from tackles and stuff. I was on the pitch in the middle of a game thinking “what are the coaches thinking?” and “just don’t mess up, don’t mess up”.

The impact of reduced self-efficacy was not restricted to the period when athletes experienced burnout but had long term implications for more global confidence in a number of participants both inside the sport context and out. For those athletes that returned to their sport after taking a break, they expressed that they never felt that their confidence returned to earlier levels preceding burnout.

I just felt like it completely changed me as a person. I used to be very confident some would say slightly arrogant. I’m not like that now but use it to cover up for all the insecurities that I feel underneath it. I definitely think it’s affected me in things like looking for work, going for jobs. I think of myself as I’m not
good enough to get that or I won't get that. I used to be really confident at things like public speaking and that kind of thing and now I get really nervous and I do think that comes from this period in my life. I quite often feel like I'm not pushing myself as hard as I could do and I'm afraid to do things in case I fail (netball player).

Part 2: Inter-relationships between the dimensions of athletic burnout

All participants confirmed that inter-relationships existed between the burnout dimensions but acknowledged that it was not always possible to differentiate between them. The strongest associations between dimensions were reported between PEE and RA, and PEE and DV. A link was also established between RA and DV but it was not reported as consistently as inter-relationships with PEE.

*Physical and emotional exhaustion and reduced athletic accomplishment.* Within athlete stories PEE and RA were very strongly linked, and represented something of a vicious cycle. Some athletes considered that their experiences of exhaustion had affected their ability to perform, and this led to RA. A swimmer commented simply that, “You need to go into competition feeling fresh. You can’t go in feeling like you’ve done ten rounds and still give you best fight, can you?” The same athlete also added with respect to RA impact on PEE “When your confidence is down and you’re swimming bad, it is even harder to fight the exhaustion, how are you meant to?”. These dimensions therefore appeared to display a reciprocal relationship.

In describing the links between these dimensions athletes did talk about RA in relation to physical exhaustion separately, as well as in combination. As a hockey player recalled, physical exhaustion appeared to be linked to RA in one direction by affecting the athlete’s ability to physically perform and execute skills. In the opposite direction, the player responded to their decline in performance by reinvesting effort and training harder, the resultant effect was to exacerbate feelings of physical exhaustion.

When you start to feel physically exhausted you kind of just think I’ll train through it and come through the other side. You kind of get used to being tired when you’re training hard. But when things started to go wrong in matches. Basic stick work and control just led to the simplest mistakes and your confidence starts to go. You think ok I’ll go and do more field sessions this week and practice but the more you practice the worse you get. It becomes a
vicious cycle, or downward spiral may be. For emotional exhaustion and RA this was more closely linked to athlete's levels of self-efficacy. A triathlete described her experiences of low confidence in racing and what she described as mental exhaustion.

I remember in a final that I should have been winning. I was lying in 8th place and I remember there was no diving in thinking I was going to win this. It was like another training session, there was no other gear, it was just same old gear. Was that because I didn't have any confidence in me or because of a mental exhaustion, I'm not sure. When your coach then says nothing afterwards to you, you feel more exhausted and your confidence is even lower. You shrink into yourself a lot more, and when you are not achieving you continue to do this.

Physical and emotional exhaustion and sport devaluation. Participants linked these dimensions predominantly through feelings of PEE leading to DV. One hockey player did report that they felt they experienced DV which in turn led eventually to emotional exhaustion but this was an exception. Athletes proposed that it was difficult to maintain motivation for their sport when they were exhausted by it. Again in some instances, athletes differentiated between physical exhaustion and emotional exhaustion. Physical exhaustion appeared to be strongly connected to changes in attitude and the development of negative feelings towards the sport and motivation, whereas emotional exhaustion and particularly athlete experiences of being numb or empty towards the sport, were often discussed with reference to a motivational shift and withdrawal. Experiences of being physically overloaded by the sport through training and competitive demands were common amongst athlete stories. In these situations poor support structures and negative coaching relationships were frequently a source of resentment and athletes felt if these had been better orchestrated they would have experienced less overload. As one track and field athlete described of her coach "He just put too much on me. Because the rest of the world were squatting massive weights we had to. But I was only fifteen. Injury after injury but he never listened, or once acknowledged any mistake on his part. He was an idiot"

In exploring the link specifically between feelings of emptiness that were often considered to be the final part of emotional exhaustion and DV a figure skater observed.
It was a longer process for the emptiness than the becoming physically tired. Gradually, gradually it got worse, and then the motivation went after that. I just didn’t want to do it, I couldn’t be bothered. It then progressed from I don’t want to do this to I can’t do this because I feel so rubbish. Within the figure skater’s story and that of other athletes, the connection between emotional exhaustion and DV was particularly strong. A number of participants expressed that they had found it challenging to differentiate between emotional exhaustion and DV and that at times they felt inextricably linked. A swimmer did however offer this useful distinction between them.

Devaluation for me I guess is, when you don’t feel valued anymore and you start to feel negative towards yourself, towards your sport and just a feeling of “why do I bother!”. Whereas emotional exhaustion is about “how do I bother, how the hell can I do this?! I just can’t do it”. Emotional exhaustion is like I can’t and devaluation is like ‘why do I bother?’.

A final observation raised by participants for the inter-relationship between PEE and DV, was the development of a “don’t care” attitude which was seen at times to serve as a protection mechanism. As one hockey player described succinctly “If you care less, you save yourself a little and in the long run it hurts less”. The reference to hurt is in both a physical sense in terms of exhaustion as well as at an emotional level when athlete’s felt they are failing, were uncertain of their future, and experiencing repeated disappointment, frustration, confusion and anger, all of which they considered emotionally demanding and draining.

**Reduced athletic accomplishment and sport devaluation.** Across the sample fewer links were established between the RA and DV dimensions. Where connections were discussed it was often with reference to the impact of declining performance, or reduced accomplishment, on levels of motivation. A tennis player described the relationship between performance and motivation in the statement that:

I think when you're playing well it's really hard to not be motivated about it and when you're playing well, I'm not sure you wouldn't want to be there. You have days when you feel slightly less motivated that is just part of it though. But it is incredibly hard to stay motivated when you're performing badly. You kind of think “why am I doing this?”.

Other athletes spoke of the “mental” boost they would get when they experienced improvements in performance, or when they had been in a “slump” but intermittently
had been able to produce some of their "old form". When they had been struggling with exhaustion a canoeist commented that good performances were a "glimmer of hope that things were going to be ok again".

One hockey player reported that motivation had impacted his performance as he "did not care as much about performance, and worked less hard", and this was something he associated with the early stages of his burnout experience. Conversely the majority of respondents observed that DV was affected more by PEE and RA than vice versa initially. As time progressed athletes then appeared to struggle more with manifestations of PEE and RA, as motivation declined and they began to experience more feelings associated with DV.

Discussion

The present study sought to further validate and expand Raedeke's (1997) three dimensions of athletic burnout (i.e., physical and emotional exhaustion [PEE], reduced athletic accomplishment [RA], and sport devaluation [DV]) through a collaborative interview technique. Athletes were selectively sampled on the basis of their experiences of burnout and their personal stories were explored in relation to key characteristics and manifestations of each dimension. A second purpose of the study was to examine the inter-relationships between dimensions.

Athlete accounts of burnout were varied, reinforcing the personal nature of the syndrome that has been documented in previous research (Gould et al., 1997) but there was also common agreement that Raedeke's (1997) three dimensions captured athletic burnout for the individuals interviewed. A track and field athlete offered this observation of how she considered the dimensions to be representative of burnout, and which is also reflective of the general consensus across the sample.

Yes that is a good synopsis, definitely. Some athletes will experience different levels of these throughout their careers, and some will experience all at once. But I think it is definitely a combination of all of these, and I think there may be differences across sports too.

*Physical and emotional exhaustion*

The PEE dimension was described vividly and at length in each of the athlete stories, and therefore confirmed existing beliefs that the exhaustion dimension of burnout is a central feature of the syndrome (Raedeke, et al., 2002; Schutte, Toppinen, Kalimo, & Schaufeli, 2000).

Raedeke (1997) originally defined this dimension in terms of PEE, or fatigue
that resulted from training or competitive demands. This definition provides a relatively broad overview, and in a later qualitative study of swim coaches’ perceptions of athlete burnout, the description is again fairly general as a “state of mind that occurs when both physical and mental avenues have been thoroughly exhausted” (p. 192). Through exploring the athletes’ stories in the present study it was possible to gain a more detailed perspective of this dimension, and which also indicated that it comprises more than just feelings of exhaustion. Athlete accounts identified that in addition to exhaustion, other key manifestations included: negative affect; illness and injury; lack of recovery; and energy depletion. These findings interestingly show much alignment to an earlier description of burnout provided by Smith (1986). He states that:

People suffering burnout experience low energy, chronic fatigue, and an increased susceptibility to illness. They may feel exhausted during the day, yet sleep poorly at night. At an emotional level, feelings of depression, helplessness, and anger are frequently reported. Tension and irritability occur even though the person may feel emotionally depleted in other respects. Everything seems like too much to deal with... (p. 39)

Cresswell and Eklund (2003; 2006a) exploring burnout in professional rugby players have also recorded a breadth of manifestations under the exhaustion dimension, including: being “tired”; “moody”; “feeling physically sick”; “frustrated”; and needing “longer recovery periods” and wanting a break from rugby. Although the intention here is not to revert to what has been described as a “laundry list” approach to defining burnout through a list of symptoms as seen early in the fields’ development within the work setting (Schaufeli & Enzmann, 1998), it is apparent that there are distinct physical and mental facets to this dimension, and the interplay between them significantly affects athletes’ experiences of exhaustion.

With respect to physical exhaustion key characteristics comprised feeling overloaded and tired, susceptibility to illness and inability to recover quickly from illness, injury and fatigue. Coaches in the Radeke et al. (2002) study associated the onset of exhaustion with overtraining, and continued and unrealistic stress and demands where swimmers’ bodies were pushed to their limits without sufficient recovery and eventually broke down. Athletes in the current study drew strong connections between physical exhaustion and training related issues including overtraining and monotonous and heavy training regimes, and to a lesser extent,
competitive commitments and the lack of opportunity to take a break. One canoeist described:

I remember one time I was laying on the gym floor. It was an old smelly gym and I lay there thinking why am I doing this? I would get in there and just aim to get my set done and get out as soon as I could. I had no energy in there and everything felt heavy. There was just no let up in the training, no break from the monotony. It was both tiring and boring, and I think the boredom is pretty draining too.

Comparable findings have been reported in the professional rugby context where players discussed feeling overloaded from “pressure to comply with demands”, “heavy training and playing load”, and the “competitive rugby environment” (Cresswell & Eklund, 2006a). Players also identified the existence of an “anti-rest culture” in which “rest was viewed as a sign of weakness”, “belief that asking for a rest will result in non-selection”, and fear of being “criticised by media, public and past players for taking a rest”. These feelings were shared by a number of athletes in the present sample who described an anti-rest mentality within their sport.

Specifically, these athletes talked about a sense of being unable to find time for sufficient recovery, or to take a timeout from their sport. A track and field athlete described the continual pressure to train that she experienced was evoked by the potential of her place on the team being in jeopardy if she took time off.

You go to sleep tired, you wake up tired, you go to sleep tired, you wake up tired. It is like being on a treadmill I guess, you feel like you can’t get off. If you do, or you take time off you feel like you’re going to fall further behind. There is so much pressure to train hard. You work hard to make it to the top and then you worry about staying there. If you take time off you fall behind your competitors, and there are younger athletes snapping at your heels. It’s constant.

Within the athlete burnout literature, two models have been advanced that propose burnout is a consequence of insufficient recovery (e.g., Kallus & Kellmann, 2000; Kentta & Hassmen, 1998). The purpose of the present study is not to discuss the aetiology of athletic burnout but it is the author’s contention that the issue of recovery is an important contextual consideration impacting burnout in this setting. Kallus and Kellmann (2000) describe a stress-recovery model which suggests that burnout is the product of accumulating stress (training and non training based)
without appropriate recovery. A second approach by Kentta and Hassmen (1998) offers a conceptual model of under-recovery and overtraining, and postulates that staleness, and eventual burnout, are the outcomes of an imbalance between total stress and total recovery. Central to this model is the super-compensation principle of athletic training (Bompa, 1999). Kentta and Hassmen explain that this principle involves a natural process of positive overload where the end result is adaptation and improved performance. Overload includes a breakdown process (training), followed by a recovery process (rest), and it is through this cycle of breakdown and recovery that adaptation occurs. The practice of physically overloading an athlete therefore, is intended to deliberately disturb their homeostatic state, and brings about fatigue and reduced functional capacity as known consequences (Bompa, 1999). There are few other domains in life where such practice is undertaken to attain advantage for the individual. Athletes must also contend with what Kentta and Hassmen (1998) describe as non-training stress (e.g., competitive demands and schedules, contractual obligations, media exposure, and personal and public expectations). By virtue of this overload and recovery process then, athletes are potentially susceptible to fatigue related conditions such as overtraining, staleness and burnout if the process is not well managed. This presents an important contextual feature of athletic burnout in that, just as it leaves athletes vulnerable to maladaptation, it is also how adaptation is achieved, and through it, athletic excellence attained. Physical exhaustion described by athletes in the present sample therefore, appears to be an accumulative form of fatigue that develops as a consequence of repeated exposure to training and non-training demands, and at times, insufficient quality recovery.

Mental or emotional exhaustion in the present sample emerged as negative affect including mood disturbance, frustration, depression, anger and irritation, and mental fatigue. These findings mirror observations in the work related domain which state that through burnout "positive feelings of enthusiasm, dedication, security and enjoyment fade away and are replaced by anger, anxiety and depression" (Maslach and Leiter, 1997, p.23).

Coverage of emotional exhaustion in the sport related burnout literature has been limited, and current conceptual thinking is to see it being integrated with physical exhaustion (Raedeke, et al., 2002). Raedeke et al. propose that it is difficult for athletes to keep mentally invigorated when they feel physically exhausted or overtrained, or vice versa, and hence the two components seem inextricably linked.
Emotional states affect perceptions, behaviours and thoughts and can activate or shut down the autonomic nervous system which affects adaptation, and in turn the body can react to intense emotional reactions (Henschen, 2000). The link between the physical and emotional was confirmed by a number of athletes in the present sample who described how they became increasingly mentally exhausted, and attributed this to a constant feeling of physical exhaustion and failure to produce effective performances. A tennis player explained “emotionally there is only so much you can take when you are always shattered and playing terrible. It gets to you mentally in the end as well”. Furthermore, athletes discussed how emotional exhaustion negatively affected their perception and ability to cope with their physical state. “The mental side definitely makes things worse. You kind of can handle the physical exhaustion up until a point, and then as you get mentally drained, it kind of all gets too much to cope with” (swimmer). However, it was also suggested that although related, the physical and emotional should be treated as separate components of the same dimension. A canoeist explains “I think although the physical and mental, or emotional are linked, they are slightly separate. I remember my mind and body feeling differently at different times”. At the applied level, this has important implications for how a practitioner might work with an athlete exhibiting higher levels of physical exhaustion and lower emotional exhaustion, compared to an athlete who present with high levels in both.

Although the majority of athletes believed they had experienced physical exhaustion, three athletes reported that they had experienced emotional exhaustion but not physical exhaustion, or that this was a much later manifestation of burnout for them. As a netball player described

I don’t think I felt physical exhaustion but definitely mental. The constant changing of the selection policy and the pressure we were under was totally draining. It’s like the goal posts were being moved all the time. And I think it, I think it just all built up session after session. I never really knew where I stood with the coaches and that really plays on your emotions. By the end of it I was mentally drained.

Responses from the present sample suggest that emotional exhaustion is closely aligned with physical exhaustion, as well as emerging independently in some instances. Due to the physical nature of sport however, and the intuitive appeal of physical exhaustion in conceptualising athlete experiences of exhaustion, there could
be a danger that the emotional side becomes subsumed simply as a consequence of the physical. The original advancement of burnout was as a condition of the helping professions. The everyday nature of this type of work was considered to leave professionals susceptible to burnout, as it involves spending significant periods of time in intense and emotionally demanding interaction with other people (Maslach and Jackson, 1981). Specific emotional demands associated with this work context are considered to lie at the core of the syndrome (Schutte et al., 2000). Emotion is an important aspect of sport involvement and a critical factor in both enhancing or impairing, individual and team performance (Hanin, 2000). Indeed it is at the root of the entertainment for which spectators avidly support their home team or sporting heroes, why coaches are driven to passionate outbursts on the touchline, and why athletes struggle with the last of their effort in the pursuit of victory and crumble into despair, at defeat. Considerable academic interest within sports psychology has also been devoted to understanding the emotion-performance relationship (Hanin). Therefore just as the helping profession is described as “emotionally demanding”, it seems that the sport context places its own emotional demands on the athletes who perform within it, and hence is an environment where these individuals are potentially susceptible to emotional exhaustion. This may suggest that future research should examine in more detail the physical and emotional demands of the sport domain, as well as the interplay between them to further understanding of the exhaustion dimension of athletic burnout.

**Sport devaluation**

Research validating DV as a dimension of athletic burnout has described it as the “development of negative attitudes toward sport and their involvement in it” (Raedeke, 1997, p. 398) and more specifically “athletes developing an apathetic attitude and no longer caring”. Devaluation has been reported in varying intensity from “general detachment to a severe hatred or resentment of the sport” (Raedeke et al., 2002, p. 192). Also accounts of day to day experiences of DV have included questioning of “why am I doing this?”, the feeling that “mental desire for competition slipping away”, “thinking about the end of the year and resting”, and sport being “not enjoyable anymore” (Cresswell & Eklund, 2006a, p.225). Athlete stories in the current sample spoke of similar experiences and confirmed DV as a key component of burnout. Characteristics of the dimension were summarised as five key manifestations: motivation; lack of enjoyment; negative attitude; relationship
difficulties and withdrawal.

Motivational loss or a shift in motivation was the most prominent manifestation of DV expressed by athletes. Moreover, changes in motivation appeared to be the lynch-pin in many of the accounts, and were intimately linked with other key features of DV (e.g., lack of enjoyment). Burnout within the sport context has been identified as a subtopic of motivation (Gould, 1997), and is believed to possess a “motivational signature” (i.e., the prominence of motivation, or a lack of motivation) (Cresswell and Eklund, 2005a). Such is the significance of motivation to burnout, that there has been a recent thrust within athletic burnout research to develop a motivational explanation of the syndrome by employing existing motivational frameworks including self determination theory (Ryan & Deci, 2002) (e.g., Creswell & Eklund, 2006c; 2005b).

Motivational theories of burnout have also been advanced within the work setting. An approach from this setting that appears to have particular resonance with the athlete stories, draws upon existential psychology and an individual’s basic need for meaning and significance (Pines, 1993; 1996). The underlying tenant of the theory is that “in order to burnout, one has first to be ‘on fire’. A person with no such initial motivation can experience stress, alienation, depression, an existential crisis, or fatigue, but not burnout” (Pines, 1993, p.41). Athletes describing their early motivation for their sport certainly seemed to be lit up by their involvement. They expressed “loving it”, “wanting to be the best they could be” and “wanting to do nothing else”. They were highly intrinsically motivated and driven to pursue their goals and in many instances built their life around their sport involvement. As a swimmer describes simply, “swimming was everything, my life, everything”.

Identity foreclosure and the development of a uni-dimensional identity through sport involvement, are concepts that have previously been discussed as factors that may contribute to the incidence of athletic burnout (Coakley, 1992), and the personal histories of many of the athletes in the current sample, exemplified such circumstances. Pines (1996) states that for idealistic people, work can satisfy the natural quest to make their lives matter in the larger scheme of things and to give meaning to their existence. Burnout is believed to be deeply rooted in personal goals and expectations, and begins to develop as a gradual process of disillusionment when experiences do not match intentions and expectations. Athletes may seek such meaning through sport involvement, and if they fail to achieve a sense of existential
significance from their sport involvement, it is possible to see how DV might manifest.

Devaluation is not simply a benign loss of interest in sport (Raedeke et al., 2002); for individuals in the present sample it was the development of the antithesis of their original motivational profile for their sport, and the accompaniment of significant negative feelings that reflect the transition from love to loathing. Maslach et al. (2001) and colleagues explain that "what started out as important, meaningful, and challenging work becomes unpleasant, unfulfilling and meaningless" (p.416), and what was once involvement becomes eroded leaving cynicism. This sequence of events was highly visible in athlete stories, and left individuals cynical and resentful of their experiences in sport.

A second significant finding emerging from athlete accounts of DV and linking a number of the key manifestations was the presentation of this dimension as a potential defensive coping strategy. Within the helping profession context depersonalisation has been described as a coping strategy (Schaufeli & Taris, 2005) prompted into action as a consequence of a state of exhaustion, and through which an individual attempts to distance themselves emotionally and cognitively from their work to conserve their emotional resources (Maslach et al., 2001). Outside this context, it is observable as cognitive distancing through the development of indifference or a cynical attitude when exhausted and discouraged (Maslach et al.; Schutte et al., 2000). Athlete stories displayed examples of both emotional and cognitive distancing through the development of negative attitudes towards their sport, and withdrawal. Athletes described the manifestation of a “don’t care attitude” as associated with motivational loss but also as a way of coping. “If I cared less about it, the whole thing hurt less” (triathlete). By distancing themselves from their sport, athletes felt able to conserve emotional resources. For some athletes they consciously chose to withdraw themselves from their sport and contact from others within it, again to conserve resources, while others experienced alienation, isolation and remoteness. In the latter case athletes were at times uncertain whether this was a conscious choice and coping strategy, or a consequence of how they were feeling emotionally. Resultant effects of the choice to withdraw and feelings of isolation were however to heighten DV, and to seek further distancing. Previous research has suggested that physical withdrawal is a behavioural consequence of athletic burnout and not a characteristic (Raedeke, et al., 2002).
The DV dimension appeared therefore to have an evocative influence within the athlete stories therefore, through its impact on motivation and the development of negative and cynical attitudes towards their sport. Furthermore, in each of the athlete stories the end result of burnout was departure from the sport, athlete’s frequently expressing that “I couldn’t do it anymore, I didn’t want to” (canoeist). Although there seems to be evidence here that DV acted as a coping strategy for some athletes with the decision to quit their sport, being a final approach to dealing with how they felt, it is not entirely clear whether DV is a coping strategy and/or consequence of burnout. It is difficult to conceive that motivational loss is a coping strategy, although the development of negative attitudes and distancing may be seen as such. 

**Reduced athletic accomplishment**

In the sport related literature the RA dimension has been defined in relatively broad terms as sports abilities and achievements, perceptions of lack of achievement and success, and unmet expectations and inability to reach personal goals (Cresswell & Eklund, 2005b; Gould et al., 1996b; Raedeke, 1997). Athletes in the present study recalled this dimension as being particularly salient in their experiences of burnout, and manifesting as reduced performance accomplishment and reduced self efficacy. A similar division was reported by Cresswell and Eklund (2006a) in their study of burnout in professional rugby players, where reduced accomplishment and/or low professional efficacy comprised the third dimension of athlete burnout.

Athlete burnout research has generally focused attention on this dimension in relation to changes in performance, including: “poor play”; “getting beat by people I used to beat”; “wasn’t winning”; “erratic nature of play” (Gould et al., 1996b); “lack of improvement”; “diminished sense of progress” (Raedeke, et al., 2002); “up and down performances”; “downward spiral of performance”; “not playing to potential” and “loss of control over performance, out of control (could not reverse)” (Cresswell & Eklund, 2006a). The accounts of athletes interviewed in the present study painted similar pictures of decrements in performance, or failure to show progression. Moreover, athletes spoke at length that changes in performance, which often seemed to occur without explanation, were a key facet of their experiences of burnout. For some athletes it was through performance related issues that they first became aware that something was wrong. “The season before I had played so well but the next year it was all going wrong. On the pitch, I was terrible, easy mistakes coming left, right and centre. That was when it started to fall apart” (rugby player). Frequently,
responses to failing performances focused on training harder and investing greater effort but as has been reported in other studies (e.g., Gould et al., 1996b; Cresswell & Eklund, 2006a), this seemed to add further to feelings of exhaustion and growing frustration with performance. Conversely, “the odd spark of genius”, “glimpses of my old form”, “the odd good game”, and “a good training session” helped to bolster athletes and make them feel “maybe things aren’t so bad” and “maybe it will be ok”.

The root of this frustration may lie in what could be described as the hallmark of competitive sport, performance. At the core of competitive sport is rivalry, striving, and the test of comparative skills, competence and performance, athletes are publicly judged ultimately on their athletic performance and competence hitherto. Failing performance therefore is informational to public evaluation of athlete competence, and an athlete’s own perception of competence. With or without burnout, it is a challenging task to be an athlete struggling with performance. As the athletes in this sample themselves explained, “it is possible to cope with how you feel physically and mentally when you are still performing but when you start losing it’s like entering a black hole and you don’t know which way is out” (swimmer).

Research in the work literature (Wright & Bonnet, 1997) has established a negative relationship between work performance and emotional exhaustion but has not reported any relationship with depersonalisation or reduced accomplishment. Cresswell and Eklund (2006a) have suggested that research into athletic burnout could be enhanced if ‘subjective’ (e.g., satisfaction) and ‘objective’ (e.g., win/loss) measures of performance were employed. This seems a worthwhile avenue for future exploration with reference to how the three dimensions impact athletic performance, and more specifically to enhance understanding of the role of performance accomplishment in athlete burnout.

Confidence, and more specifically performance related self-efficacy, although prominent in athlete’s stories as a second chief manifestation of the RA dimension, has been largely unexplored within the athletic burnout literature (see review in Study One). Self-efficacy is defined as “beliefs in one’s capabilities to organise and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3). It comprises ‘efficacy expectations’ which refer to beliefs about capability or skill to perform and ‘outcome expectations’ that are beliefs about outcome or performance. Bandura (1977) proposes that self-efficacy beliefs are constructed through four sources of information: personal accomplishment (past experience);
vicarious experience (observation of others); verbal persuasion (evaluative feedback self talk and other); and physiological arousal (physiological and affect states).

Previous performance accomplishments and mastery experiences are considered to be the most influential sources of self-efficacy. ‘Prior successes build robust beliefs in one’s personal efficacy and favour future achievement, whereas failures entail the opposite effects’ (Gernigon & Delloye, 2003, p.56). Reviews conducted in the sport domain of self-efficacy and performance (Feltz & Lirgg, 2001; Moritz, Feltz, Fahrbach, & Mack, 2000) identify a clear positive relationship between them, and self efficacy is considered a key psychological attribute of peak performance (Krane & Williams, 2006). Kjormo and Halvari (2002) also reported a negative relationship between self confidence and burnout in Olympic athletes. As such, it is possible to see how self-efficacy may play a role in the experiences of athletes who are experiencing difficulties with, or decrements in, performance, as characterises the RA dimension.

With respect to the performance accomplishment/professional efficacy dimension of professional burnout, the importance attached to self efficacy has been varied. From perspectives in which this dimension is considered to be the product of emotional exhaustion and depersonalisation (e.g., Maslach et al., 2001), self efficacy has tended to be glossed over with attention focusing more on feelings of ineffectiveness and inadequacy that stem from the accumulating effects of the other dimensions (Toppinen-Tanner, Kalimo, & Mutanen, 2002). In empirical research that has explicitly investigated the role of self-efficacy in professional burnout it has been as a moderator (e.g., Brouwers, Evers, & Tomic, 2001) or predictor (Salanova, Peiró, & Schaufeli, 2002) of all three dimensions of burnout, and not specifically the RA dimension. There are also however, perspectives that consider self efficacy to be at the core of the RA dimension of burnout (e.g., Lee & Ashforth, 1990). Cherniss (1993) proposes that self-efficacy plays a significant role in the aetiology and amelioration of professional burnout, and offers a perspective that has particular relevance to the sport context also. At the centre of this perspective, competence is considered to be a strong human motive, which when thwarted results in high levels of stress, and in some cases burnout. The link Cherniss (1993) establishes between self-efficacy and burnout was influenced by the work of Hall (1976) on psychological success and Bandura’s self efficacy theory (Bandura, 1989). Cherniss (1993) explains that work motivation and satisfaction are considered to be enhanced
through successful and independent achievement of a goal that is challenging and personally meaningful. Such achievement leads to psychological success, which in turn encourages greater engagement and more self-esteem (self-efficacy). In contrast ‘psychological failure’ is associated with responses including the individual’s emotional withdrawal, lowered work standards, and defence of the self-concept through the use of defence mechanisms. These symptoms of psychological failure advanced by Hall (1976) later became known as burnout. With reference to Bandura’s (1989) work, Cherniss (1993) highlights that self-efficacy is linked to stress in that individuals with stronger self-efficacy experience less stress in taxing or threatening situations, and will consider situations less stressful when they feel able to cope successfully with them (i.e., possess stronger self-efficacy). As burnout is typically regarded as an adverse reaction to stressful situations, Cherniss proposes that the relationship between stress and self-efficacy is transferable to self-efficacy and burnout. It follows then that “factors in the individual or work situation which enhance feelings of success and competence would reduce burnout, while factors that promote feelings of inadequacy and failure would increase burnout” (p.138). In summarising her approach, Cherniss (1993) argues also that through the relationship between self-efficacy and burnout, there in lays an opportunity for the prevention of burnout. If self-efficacy is considered to enable professionals to overcome stress, it follows that the enhancement of self-efficacy may cause burnout to be avoided. The significance which athletes attached to self-efficacy in their stories of burnout suggests that within the sport context, there is potentially much to investigate with respect to the self-efficacy and the RA dimension, as well as the self-efficacy and burnout relationship more generally. This is with a view to furthering understanding of both the syndrome within this context, and the possible development of intervention strategies.

Schaufeli and Taris (2005) in debating whether burnout is a general or work-related phenomenon suggested that burnout may occur outside the work context but that fundamentally the term should “refer to a phenomenon that occurs in response to activities that are psychologically similar to work” (p.260). They characterise these types of activities as work-like because they are structured, coercive in nature and directed towards specific goals, and suggest that the activities of athletes, artists, students and volunteers may from a psychological perspective, be similar to work. In the case of professional and full time funded athletes performance effectively equates
to income and livelihood. Cresswell & Eklund (2006a) reported that professional rugby players associated "low job-security" and the "threat of non-selection" with the incidence of burnout. The structure of competitive sport is geared to performance. If it is conceived in work-related terms, performance is its product, and the role of RA in athlete burnout therefore, would seem an important area of future research in furthering understanding of burnout in this setting.

How are the three dimensions inter-connected?

It has been proposed that there are inter-relationships between the three dimensions of burnout, and that a comprehension of these associations would be valuable to furthering understanding of underlying causal mechanisms and how burnout manifests over time, as well as the development and implementation of intervention strategies (Cordes et al., 1997; Taris et al., 2005). In Maslach and Jackson's (1981) original conceptualisation of the three dimensions it is postulated that emotional exhaustion is an experiential state that prompts a dysfunctional coping strategy to preserve personal resources, depersonalisation. The third dimension of reduced accomplishment is considered self evaluative, and an outcome of the syndrome that is a product of emotional exhaustion and depersonalisation (Maslach, 1982, 1993; Schaufeli & Taris, 2005). Thus far within the sport related literature no inter-relationships between the dimensions have been hypothesised, and as such, at present, they stand alone. Cresswell and Eklund (2006a) is the only study to date that has reported any associations between the dimensions in an athlete population. Physical and emotional exhaustion and RA were identified as having a bi-directional relationship. Athletes expressed that they felt exhaustion had a "negative influence on their ability to maintain the level of training and on-field performance required". Perceptions of RA were seen to have "often led to increased efforts and further exhaustion" and "doubts about future performance were linked to physical, mental and emotional fatigue" (p.226). Reduced accomplishment was also linked with DV and a "process of re-evaluation of their involvement" in their sport.

Athletes in the present study identified inter-relationships between dimensions and suggested that it was their combined accumulative effect that was especially debilitating. A hockey player offered this insightful summary of the burnout experience.

Yeah, it's definitely not one event, it's not having a bad game, it's not getting sickness, it's not being frustrated with the lack of management or support. It is
definitely a combination of all three dimensions and an ongoing, draining battle that ends up in you saying "enough's enough".

An important consideration when examining the inter-relationships between dimensions was the athletes' level of self awareness of what they were experiencing in the period leading into their departure from the sport. A number of athletes shared the experiences of a rugby player who commented that "I guess it just creeps up on you, you don't really realise something is wrong and then wham you're tired, you're playing bad and it is all going to pot". Moreover Etzion (1987) describes burnout as a slow and hidden process of psychological erosion that is often barely recognisable, and as such, can go on for a long time without being detected. The limitations of retrospective research are acknowledged (Johnson & Sherman, 1996) but with reference to this limitation, and the potential lack of awareness athletes may have possessed of experiencing burnout at the time, athletes commented that the collaborative interview process had been useful in aiding their recall, and for some, helped them to construct a picture that provided meaning and personal understanding to their experiences. A swimmer provided the following statement with regard to what they felt they had gained from the interview process.

By putting together this picture I think I've been able to see what I went through, and understand it a bit. When you are in it you do not really know what is going on. How you feel physically and bad results tell you something is not right but you don't get it at the time. Looking back now I can see what happened and how it happened. It has been a kind of therapy I suppose.

With the exception of two individuals, it was through intense feelings of exhaustion, that athletes first became aware that something was wrong. The exceptions, a hockey player and triathlete, identified DV linked to RA and then emotional exhaustion, and RA associated with PEE and then DV respectively. Athlete awareness then was pricked most by experiences of "constantly feeling tired", "having no energy" and "being unable to recover properly". However, closely linked to their awareness of PEE was the RA dimension. As discussed previously athletes felt able to cope with chronic experiences of fatigue if they were still performing. A swimmer made this observation of the link between these dimensions.

As a sports person you are used to being exhausted, it is part of it. I think reduced accomplishment is the thing you first realise because you are not racing well and you are not aware why. You don't become aware when you're
tired, it is just about the racing. So reduced accomplishment and exhaustion are linked.

This suggests that reduced accomplishment may indeed constitute a self-evaluative component of burnout (Schaufeli & Taris, 2005). Maslach and Jackson (1981) originally described this dimension as "the tendency to evaluate oneself negatively, particularly with regard to one's work. Workers feel unhappy about themselves and dissatisfied with their accomplishments on the job" (p.99). Work for athletes is evaluated ultimately through performance. Reviewing their own stories a number of athletes identified that they had continued to train through periods when they felt exhausted as they considered this to be a "part of the training process" and that "they would be able to train through it". In some senses exhaustion at this stage was considered to be transient and that "it would pass". For these athletes it was more often changes in performance that evoked recognition that there was an issue, rather than feelings of exhaustion. In other athletes who made a connection between the PEE and RA dimensions, an association was identified between feelings of exhaustion and eroding confidence in their ability to perform (self-efficacy). As they became increasingly exhausted athletes observed decrements in their performance in training such as increasing mistakes, being unable to complete sets, and lack of improvement and progress. This in turn generated feelings of lowered self-confidence, increased competitive anxiety and performance frustration which also added further strain to their emotional resources. A rugby player provides an example of this chain of events.

The emotional side was the build up of feeling like you weren't getting where you wanted to be and worries about the coaches. I think there is a range of emotions here. You get anxious about performance and in some ways being tired, and also frustrated because you work hard to improve and you don't. I think my mood affected my state of mind because you stop being positive and become really negative. Your mindset shifts and I was thinking and worrying a lot of time and this is pretty draining too.

Interestingly the predominant coping strategy to deal with negative changes in performance was to invest greater effort which served only to exacerbate levels of PEE and RA. Although there were significant links between these two dimensions, exhaustion a chronic experiential state was the most salient feature of athlete stories.

Strong associations were also highlighted between PEE and DV, and to a lesser
extent between DV and RA. Devaluation tended to emerge later in the burnout experience and was preceded in athlete stories by one of the other dimensions or the combined effect of both dimensions. Similar observations were reported by rugby players in research by Cresswell and Eklund (2006a). As athletes became increasingly exhausted motivation began to decline and negative attitudes towards the sport started to develop. There was some differentiation between PEE with reference to the DV dimension. Athletes connected physical exhaustion with changes in attitude and they spoke about developing apathy and a “can’t be bothered” approach to both sporting and non-sporting life because they were simply too tired to do anything. Shifts in motivation and withdrawal were associated more with emotional exhaustion and the recognition that they no longer wanted to feel this way and needed to do something about it. This potentially reinforces the coping strategy which has been associated with this dimension (Schaufeli & Taris, 2005).

Reduced accomplishment and DV were linked particularly through increasing frustration from feeling unable to control or change performance, and repeated disappointment associated with continuing failure. Towards the final stages of their sport involvement a number of athletes reported beginning to not care about performance but this led to confusion for some as to whether this was reflective of RA or DV A tennis player illustrated with this example:

I remember walking out on the court and thinking I don’t care about the result. I don’t care about this match. I just don’t care. Playing had just come to mean nothing any more. I had gone beyond worrying about performances and how I was going to play to not really caring what was going to happen. I just wanted the matches to end quickly.

Athletes who expressed they had reached a stage when they did not care about performance raised questions as to whether it was possible to continue to experience a RA if they no longer valued performance? At this point they observed that DV became more prominent in their thoughts and feelings. As one canoeist described “At one point I think I was more motivated about how I was going to quit, than any results or races I was in”. Growing DV, combined with continuing RA was considered to further deplete athlete resources and contribute to increasing PEE.

To summarise the inter-relationships between the dimensions of athletic burnout, a tennis player offered this picture of her experiences.

I think probably physical and emotional exhaustion must have started things off
for me somehow. When you kind of start feeling a bit down everything about
you just gets, like, slower and everything seems much more work. You have to
put a lot more effort into doing anything and even though you try and try it
doesn't change, doesn't improve. And this links to reduced accomplishment as
both a cause and effect. That if you're not achieving what goals you think you
should be or can't do this, then everything seems so much worse as well. I
think you just become a bit more, susceptible to like the highs and lows of the
game, which makes you feel lower again and more drained. I think this at some
point leads onto you thinking "actually do I want to do this when I feel like
this"? And you start to care less about what you're doing, or at least I did. You
don't feel you can change anything on court and you are constantly tired so
why let yourself feel like this. I think you then start to devalue the sport,
because it's a kind of natural instinct. If you devalue it you then give yourself
something else to think about in your life than just how rubbish you feel, it
begins to become a way out of the situation. In the end I guess you just reach
the point, through each of these things when you say to yourself "enough is
enough". You can't and don't want to take it anymore. And at that point, at
least for me, I got out.

Theoretical Implications

Although the purpose of this study was not to explore Raedeke's three
dimensions of athlete burnout and possible relationships between them, through
existing theoretical frameworks, the findings of the present study do raise a number
of implications for theoretical explanations of the syndrome. Of the more traditional
theories of athlete burnout, earlier research has shown support for models by Coakley
(1992) (Unidimensional Identity Development and External Control Model),
Schmidt and Stein (1991) (Sport Commitment Model), and Smith (1986) (Cognitive-
Affective Stress Model) (e.g. Cresswell & Eklund, 2006a; Gould et al, 1996b).
There has however been limited discussion to date on how these theoretical
approaches relate to the three dimensions of athlete burnout. This section proposes
possible links between the dimensions and existing theories that may provide future
avenues of enquiry for researchers.

Due to the overriding nature of Smith's (1986) Cognitive-Appraisal Stress
Model, there could be suggestion that there are tenable links to the manifestations
reported for the PEE dimension in terms of a stress response to being overloaded and
being unable to meet demands. However, the significant emphasis placed upon
exhaustion, energy depletion and under-recovery suggests that theoretical approaches
which examine the relationship between burnout (stress) and recovery (e.g.
Kellmann & Kallus, 2000 Stress-Recovery Model; Kenatta and Hassmen, 1998 Total
Quality Recovery) as acknowledged in the earlier discussion, are better equipped to
capture the mechanisms underpinning this dimension. In order to experience the
level of exhaustion reported by athletes in the present sample, it suggests that at some
stage of sport involvement, athletes would have demonstrated a high level of
commitment to their athletic pursuits. Schmidt and Stein (1991) propose that
individuals who display an entrapment based commitment profile are potentially
more susceptible to burnout. Equally, if exhaustion is considered to be related to
intense sport involvement, Self-Determination Theory (SDT) (Ryan & Deci, 2000)
may offer further enlightenment to how this dimension manifests. Further research
may therefore, extend understanding of this dimension through the exploration of the
motivational or commitment profiles of athletes as potential antecedents or mediators
of physical and emotional exhaustion.

Schmidt and Stein’s (1991) Sport Commitment Model and SDT, may also
provide useful theoretical frameworks for further exploration of DV. The significant
loss or shift in motivation associated with this dimension is suggestive of an
entrapment profile, as well as possible experiences of needs thwarting of the basic
psychological needs (i.e. autonomy, competence and relatedness) that underpin SDT.
In the athletes’ accounts of DV and in particular the resentment they felt towards
their sport, there are links to Coakley’s (1992) Unidimensional Identity and External
Control Model. This has been echoed in previous research examining burnout in
professional rugby players (Cresswell & Eklund, 2006a).

Finally, the Sport Commitment Model and SDT could again be useful in the
exploration of the RA dimension of athlete burnout. A fundamental feature of this
dimension was the significance of the need to satisfy feelings of competence. As
athletes began to experience decrements in performance, the commitment model
might suggest that this could lead to perceptions of rising cost and lowering
rewards. From the SDT perspective, such performance issues directly impact
satisfaction of the competence need, and failure to meet this need has been associated
with ill-being and negative mood in non-sport settings (Ryan & Deci, 2000). The RA
dimension has historically been underinvestigated in comparison to the other
dimensions but these theoretical frameworks may help to clarify the role of this dimension in athlete burnout.

Conclusion

The present study sought to expand and further validate Raedeke's (1997) three-dimensional conceptualisation of athlete burnout (e.g., physical and emotional exhaustion, sport devaluation, and reduced athletic accomplishment) through the exploration of the experiences of athletes who have been affected by the syndrome. A secondary objective was to investigate the inter-relationships between dimensions.

Athletes confirmed that each of the dimensions had been salient in their experiences, and in combination, were representative of burnout. Manifestations of each dimension were largely consistent with those reported in existent literature (e.g., Cresswell & Eklund, 2006a; 2003; Raedeke, et al., 2002) but athletes also offered further detail as to the nature of each dimension in the competitive sport setting. This additional detail reflected the influence of characteristics and demands of the sport context in shaping burnout experienced within it.

In line with conceptual thinking from the professional context (Schaufeli & Taris, 2005; Maslach et al., 2001) the exhaustion dimension played a central role in athlete experiences. A bi-directional relationship was observed between the components of PEE, as well as them functioning as individual states. Exhaustion was associated with both training and non-training stress and was considered to be the result of accumulative fatigue and/or insufficient recovery. The issue of recovery has already been proposed as a contributory factor to burnout within the sport context (Kellmann & Kallus, 2000; Kenttä & Hassmen, 1998) but it also appears to represent an important contextual consideration for the exhaustion dimension of athlete burnout in particular, both physically and mentally. Fatigue is a consequential facet of being a competitive athlete, and through the super-compensation training principle (Bompa, 1999) athlete's physical and mental capacities are routinely stretched to enhance performance. By virtue of this daily context for the athlete then, an anti-rest or "more is better" mindset (Gould et al, 1996a) that exists within it, athletes are potentially vulnerable to burnout. Further exploration of overload (physical and mental) and recovery, may therefore help to advance understanding of the mechanisms underpinning the exhaustion dimension of athlete burnout. In addition, the emotional demands of sport have largely gone unexamined in relation to burnout.
but it emerged in the present study that athletes experienced emotional exhaustion that was distinct from physical exhaustion. Competitive sport is often highly charged and highly emotional, and hence future research should look to examine the emotional demands placed on athletes (both on and off the field) as a further potential contextual influence of this setting.

Motivation is considered a critical feature of the sport context, and sport psychologists have a long history of exploring factors affecting motivation. Contemporary efforts in athlete burnout research are focusing on establishing a motivational explanation of the syndrome (Cresswell & Eklund, 2006c), and with reference to the DV dimension in particular, this may help to shed further light on the motivational shift from high intrinsic motivation to low or amotivation, observed in athletes experiencing burnout. An existential perspective of burnout (Pines, 1993) was also discussed as a possible framework for future exploration. Alongside motivation, withdrawal emerged as a significant manifestation of DV, and it is not yet clear whether this is a strategy which athletes adopt to cope with how they are feeling, and/or a response to changes in their motivation. Loss of motivation and withdrawal therefore, present two areas that warrant further investigation with respect to the DV dimension.

Finally, athlete accounts of RA suggest that this dimension, like PEE, plays a key role in athlete burnout. This dimension has traditionally been positioned at the fringe of burnout (Schaufeli & Taris, 2005), and hence this represents an interesting finding, an explanation for which, may again lay in contextual differences between the sport and professional contexts. The centrality of performance accomplishment to athletes is such that it is arguably the factor around which their daily social environment, and interactions within it, is based. Furthermore, athletes spoke at length about the impact of low or declining confidence on performance and efficacy expectations of future performance. A relationship between self-efficacy and professional burnout has been explored within the work setting (Cherniss, 1993) but this would constitute a new avenue of enquiry for athlete burnout research, through which the role of self-efficacy in the RA dimension, may become better understood. There is also the potential that enhanced self-efficacy may act as a combatant to burnout, and hence further exploration may develop this theme as an intervention opportunity (Cherniss, 1993).

Although there are some clear pathways through which the characteristics
and nature of each dimension of athlete burnout might be examined in future research, this is not to say that these dimensions should be separated and examined in isolation. Findings related to the second objective of the study, suggest the opposite in fact. Athletes discussed significant inter-relationships between dimensions which appeared to differentially impact the development of, and experiences associated with, each dimension. Physical and emotional exhaustion was reported as the dimension which athletes tended to encounter first in the earlier stages of burnout. This in turn was most strongly connected to RA. The relationship between these dimensions emerged as bi-directional in that levels of exhaustion affected performance, and lowering performance standards led to athletes increasing efforts to combat these decrements, the resultant effect of which however, was to exacerbate exhaustion levels. It has been proposed in an earlier study of athlete burnout (Cresswell & Eklund, 2006a) that the DV dimension is a product of PEE and RA, and this was confirmed again within the experiences of athletes in the present sample. Through exhaustion athletes began to feel they did not have the energy to care about their sport participation anymore, and also chose to cope with how they feeling physically and mentally through physical withdrawal. Reduced accomplishment was associated with DV through increasing frustration and a perceived lack of control over performance difficulties, and this was also linked to the development of negative attitude towards the sport, and sport involvement. As proposed within the professional context the nature of the three dimensions appears to be as an experiential state (physical and emotional exhaustion), a defensive coping strategy (devaluation) and a self-evaluative dimension (reduced accomplishment) (Schaufeli & Taris, 2005), and the interaction between them is crucial to the manifestation of the syndrome. This is only the second exploration of the inter-relationships between dimensions and it is an area that is still very much exploratory in nature. Observations from the athlete stories suggest however, that to more fully understand athlete burnout researchers should look to investigate factors that influence the manifestation of each dimension, as well as the interactive mechanisms which occur between them.

Limitations

Although findings from the present study have contributed further insight into the nature of the three dimensions of athlete burnout (Raedeke, 1997), there are a number of limitations that should be acknowledged. The present sample was
selective on the basis of two criteria in particular. The first was that all athletes interviewed were of an elite standard, and had sporting careers characterised by significant commitment and involvement where aspects of their lives including education, financial support and geographical location, were focused specifically around their sport. Their sport was their priority. As a consequence of this, the generalisability of findings must be measured in that as already discussed, for some of these athletes the structure of their sport involvement could be considered reflective of a work-related activity (Schaufeli & Taris, 2005). Future research should look to explore burnout among athletes with differing levels of involvement, not only to enhance generalisability but also to investigate whether the nature of sport involvement is a factor influential to the incidence of athlete burnout.

The second criterion was that athletes were purposefully sampled on the basis of their withdrawal from sport as a result of burnout. It should also be noted here, that confirmation of athlete status as burnout case involved a self-selection process where athletes were asked to confirm whether they believed they had experienced burnout. This is therefore, reliance on the athletes' level of self-awareness and understanding of the burnout concept. The intention of using cases of with-drawl based burnout here was to identify individuals who had significant experiences of burnout, and as withdrawal is highlighted as a final stage (Schaufeli & Taris, 2005; Smith, 1986), it was considered that individuals who's departure from their sport was associated with burnout, would be representative of more severe cases of the syndrome. It should therefore be born in mind that the stories of the athletes in the present sample reflect significant burnout, and their experiences as such may not be viewed as representative of all incidences of athlete burnout. Furthermore, there is also research to suggest that not all athletes who experience burnout withdraw from sport. Gould et al. (1996b) describe these individuals as cases of 'active burnout' and the exploration of the three dimensions among these burnout cases could be an interesting avenue of future enquiry.

By virtue of the fact that athletes in the present sample had withdrawn from sport, they were also speaking retrospectively of their experiences. Limitations associated with retrospection are acknowledged (Johnson & Sherman, 1996) but Cote, Ericsson and Law (2005) identify some issues concerning retrospective interviews which are particularly pertinent to the design of the present research study. They comment that the recall of information is often systematically biased and
reported memory as such, is reconstructed or inferred. Moreover participants are only able to recall a small number of vivid experiences which may lead to biased generalisations, and "rely on current feelings, attitudes and situations to extrapolate what they think they might have thought or experienced at earlier times" (Cote et al., 2005, p. 10). The purpose of the SCIM method is to enable researchers to test and extend existing theoretical frameworks through the collaboration exploration of athlete experiences in partnership with the researcher (Scanlan et al., 2003). The method begins inductively, and the participant then subsequently leads on the deductive analysis of data. The aim of this study was to test Raedeke's (1997) three dimensional conceptualisation of athlete burnout, and hence SCIM was selected as an appropriate technique on this basis. However, it should be acknowledged that by providing athletes with a definition of athlete burnout, and descriptions of each of the dimensions, this imposed framework may have influenced athlete memory recall and the reconstruction of their experiences during the SCIM process. Furthermore central to SCIM method is the athletes understanding of the concept being explored. The provision of Raedeke's (1997) conceptualisation was for many athletes the first time they had come across a formal description of the concept. Future qualitative research therefore, may consider utilising more inductive approaches to enhance the validity of the burnout concept. Similarly a phenomenological study may also advance knowledge and understanding of athlete burnout, through the examination of the meaning athletes themselves prescribe to their experiences, that is not influenced by a pre-determined conceptual framework.
Chapter Five
General discussion
Introduction

This thesis set out to achieve two broad objectives. Firstly, to examine the existent burnout in sport literature to determine, simply, what is known about burnout in athlete populations, and what do we still need to know? The second objective was to extend understanding of burnout as a syndrome among athletes, through the exploration of burnout as a process. Implicit within the research approach adopted was an emphasis on the application of theory into practice, and an effort to make findings communicable to both practitioners and athletes in the applied setting. To this end, this chapter draws together findings from the three studies to discuss the implications at a conceptual/ theoretical and methodological level, and at the applied level. The chapter concludes with a consideration of research limitations and future directions.

Conceptual and theoretical implications

This section highlights the important conceptual and theoretical themes to emerge from the programme of research, and outlines how they may contribute to the future development of the field.

Conceptual thinking

In 2005 the Work and Stress journal published a special edition dedicated to burnout research. The issue included four recent research studies together with accompanying commentaries from leading experts in the field. Despite offering an up to date perspective of current research interests, the editorial observed that "the four burnout papers included in this special issue employ diverging views of what burnout actually is" and that "it is imperative that burnout researchers agree on the basic definition and structure of burnout" (Cox et al., 2005 p.189). Through the examination of the burnout in sport literature in Study One, it is apparent that the lack of conceptual agreement is a significant issue that has also thwarted the progress of research in the sport context. Consensus is beginning to emerge with regard to athlete burnout however, and Raedeke's (1997) three dimensional conceptualisation is, it seems, becoming accepted as the framework for defining athlete burnout.

The conceptual validity of Raedeke's (1997) three dimensions of athlete burnout was supported within the athlete accounts of the syndrome presented in Study Three. Although the dimensions resonated with athletes, what also emerged was a need for further exploration of the specific characteristics associated with each
dimension, not only to capture what they look like but also to understand more fully how they impact the athlete. Maslach and Jackson’s (1981) original conceptualisation of burnout was framed by an approach in which they identified the core elements of the human services context, (i.e., the provider-recipient relationship and the emotionally demanding nature of the work), and then summarised the syndrome based upon the common characteristics (or symptoms) presented, leading to the formulation of the three dimensions. Researchers have warned that the application of this conceptualisation outside the helping professions would first warrant a re-analysis of the three dimensions in relation to core elements of the alternative context (Maslach & Leiter, 1993). Raedeke (1997) heeded this advice in the development of his conceptualisation of athlete burnout by developing the three dimensions around the core element of the sport context, performance. The proposal here is not a return to a “laundry list” conceptual approach (Schaufeli & Buunk, 2003) as observed earlier in the fields’ history through the identification of extensive lists of characteristics associated with each dimension. Rather, the suggestion is to examine more critically performance as the core element(s) of the sport context, and the demands associated with it in relation to each dimension of athlete burnout. Maslach et al. (2001) observe that “a detailed contextual analysis is the most appropriate way to gain an insight into the [burnout] phenomenon” (p.400).

Maslach and Jackson (1986) paint a vivid picture of the human services context and the demands placed upon professional roles within it, as one where staff are “often required to spend considerable time in intense involvement with other people”, “the staff-client interaction is centred around the client’s problems (psychological, social or physical) and is therefore charged with feelings of anger, embarrassment, fear or despair”, and “because solutions for client’s problems are not always obvious and easily obtained, the situation becomes more ambiguous and frustrating” (p.1). The intense emotional demands of “people work” is what makes individuals susceptible to burnout within it (Maslach & Jackson 1981), and an understanding of these contextual demands in turn, leads to a greater appreciation of what is also at the core of each of the dimensions. When one considers that “people work” essentially involves acts of giving and caring, the erosive nature of burnout becomes strikingly apparent. Through emotional exhaustion the provider or care giver feels “no longer able to give of themselves”, depersonalisation results in a “callous dehumanising perception of others” and can lead individuals “to view their
clients as deserving of their troubles”, and from reduced accomplishment individuals feel “unhappy about themselves and dissatisfied with their accomplishments” (Maslach and Jackson, 1986, p.1).

Although performance is at the core of each of the dimensions of athlete burnout, the descriptors for each dimension are at present, relatively general. Based upon the athlete accounts in Study Three, they do not seem to fully capture the influence of performance on manifestation of burnout in the sport context. Through the exploration of athlete experiences of each dimension, what is already known in extant literature, and building upon Raedeke’s (1997) original work, the following modified descriptions of each dimension are offered. The newly advanced descriptions are presented alongside Raedeke’s original descriptions in Table 8. The role of devaluation in athlete burnout is at present less clear than the other dimensions and requires further investigation to determine its role more specifically within the burnout syndrome (i.e., coping strategy vs consequence).

The conceptualisation of burnout is not however limited to a summation of the main of delineating characteristics as with the formulation of the three dimensions of burnout. Such a conceptual approach identifies burnout as essentially an experiential state but does not consider the process which leads to this state. Athlete burnout as defined by Raedeke (1997) perpetuates this state perspective of the syndrome, and indeed as identified in Study One, the sport context has focused little attention on burnout as a chronic process. As Cordes and colleagues describe (Cordes, Dougherty, & Blum, 1997) individuals do not simply wake up one day and say “I am burned out”. Hence failure to explore the burnout process, presents a situation in which potentially the stable door has been shut after the horse has bolted. Cresswell and Eklund (2003) state that there are two types of intervention strategies for burnout cases, prevention and management. The nature of burnout is such that it is progressively debilitating for the affected individual, essentially worsening with time. Consequently early intervention, or prevention strategies, are designed to prevent the development of an extreme state of mental and physical exhaustion, disillusionment and feelings of inadequacy in which the only option is management based intervention. Underpinning management and prevention strategies are however, a number of key assumptions that are likely to impact their effectiveness (Cresswell & Eklund). They assume that the individual is self aware enough to identify that they are actually experiencing burnout, they are interested in developing strategies to
Table 8: Comparison of Raedeke's (1997) descriptions of the dimensions of athlete burnout with modified descriptions formulated through the present research programme.

<table>
<thead>
<tr>
<th>Raedeke's (1997) descriptions of the dimensions of athlete burnout</th>
<th>Modified description of the dimensions of athlete burnout</th>
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</thead>
<tbody>
<tr>
<td><strong>Physical and emotional exhaustion</strong></td>
<td></td>
</tr>
<tr>
<td>“Athletes may be physically and emotionally exhausted from the psychological and physiological demands associated with training and competition” (p.397).</td>
<td>This dimension is the experiential state component of athlete burnout. It is associated with the depletion of athletes' physical and mental resources as a consequence of accumulative, and some times extreme, competitive, training and non-training demands, and often insufficient quality recovery.</td>
</tr>
<tr>
<td><strong>Reduced athletic accomplishment</strong></td>
<td></td>
</tr>
<tr>
<td>“Athlete burnout may be associated with a reduced sense of personal accomplishment in terms of sport abilities and achievements” (p.397)</td>
<td>This dimension represents the self-evaluation component of athlete burnout. It is characterised by reduced athletic accomplishment and lowered self efficacy, and is associated with a sense of lack of control over performance and feelings of ineffectiveness, inadequacy and incompetence.</td>
</tr>
<tr>
<td><strong>Sport devaluation</strong></td>
<td></td>
</tr>
<tr>
<td>“[Devaluation] for athletes may be represented by the development of negative attitudes toward sport and their involvement in it. For example, athletes who burnout may stop caring about sport and the quality of performances” (p.398).</td>
<td>This dimension emerges as both a potential coping strategy, and a consequence of experiences of burnout as observed through the key manifestations associated with it, namely: the loss of motivation for sport</td>
</tr>
</tbody>
</table>
involvement, development of negative attitudes towards the sport, and physical and emotional withdrawal.

combat this, have the ability to learn and implement strategies, and are motivated to do so (Cresswell & Eklund). Udry and colleagues (Udry, Gould, Bridges & Tuffey, 1997) in a study examining social networks supporting individuals experiencing burnout and injury, also report that athletes tended to view the influence of important others as a more negative than, a positive. They identified a number of reasons for this which included: the possibility that over time members of athletes’ social networks became overwhelmed by the interpersonal demands associated with someone coping with stress (burnout); individuals within the social network may have misconceptions about the types of behaviours that would be considered helpful; and finally, support providers may be well informed on what types of behaviours are most helpful but that social interaction in face-to-face situations may deteriorate as a result of how the athlete is feeling. In the case of management based strategies then, “it is likely that experiencing symptoms of burnout would make it difficult to be motivated to learn strategies” (Cresswell & Eklund, 2003, p.10). Athletes in Study Three confirmed these potential difficulties in describing how they did not want to interact with others and chose to isolate themselves from social contact. The continuation of a state perspective in athlete burnout research therefore, focuses attention on information that is most helpful to management based strategies, and as discussed, the nature of the syndrome itself has significant implications for the likely effectiveness of such intervention.

It is not the proposition of this programme of research that a process perspective of burnout is superior to a state perspective, or vice versa, rather it is advocated that the knowledge base of athlete burnout may be advanced most, and subsequently intervention approaches informed best, through the adoption of a synthetic perspective (Schaufeli & Enzmann, 1998; Schaufeli & Buunk, 2003) that combines the strengths of both. The following synthetic definition of athlete burnout (see Table. 9) is offered to encourage scholarly discussion on the opportunities available through such an approach, and to raise into the consciousness burnout as a process. As with the modified descriptions of the three dimensions of athlete burnout proposed earlier, this conceptualisation aims to capture what is already known, and
bring this together with findings that emerged from the present research.

Table 9: Comparison of Raedeke’s (1997) definition of athlete burnout and a modified definition formulated through the present research programme.

<table>
<thead>
<tr>
<th>Raedeke’s (1997) original definition of athlete burnout</th>
<th>Modified definition of athlete burnout</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Athlete burnout can be defined as syndrome of physical/emotional, sport devaluation, and reduced athletic accomplishment” (p.398)</td>
<td>Athlete burnout is an exhaustive psychosociophysiological syndrome characterised by physical and emotional exhaustion, sport devaluation and reduced athletic accomplishment which occurs in athletes whose sport involvement can be considered work related. It is a response to a gradual process of erosion of personal resources, as the result of overload often without sufficient mental and physical recovery.</td>
</tr>
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The exhaustive nature of burnout appears to be central to the syndrome in the sport setting, as it does the human services but where in the latter case it is linked to intense emotional demands, among athletes it is considered to be a product of demands at the psychological, sociological and physiological level. In the synthetic definition proposed burnout as a state is characterised by three dimensions, and its erosive effect over time is emphasised through the inclusion of a process perspective which focuses on overload and insufficient recovery. What is not yet clear however is the extent to which overload is a product of excessive demands, quality of recovery or ineffective coping strategies. Gould et al. (1996a) identified that tennis players who had experienced burnout possessed inadequate coping skills relative to equivalent players, who did not experience burnout. Although recovery will play a significant part in helping athletes to cope with the demands placed upon them, if an athlete is not equipped with sufficient coping skills they will potentially fail to meet demands regardless of recovery.

A novel suggestion integrated into the synthetic conceptualisation of athlete
burnout, is that it is considered to occur in individuals where sport involvement is work related. This is not in the professional sense, although burnout has been reported among professional athlete populations (Cresswell & Eklund, 2005a and b), neither does it necessarily reflect performance standard. Considering the work of Schaufeli and Taris (2005) on whether burnout is context dependent or not, work related sport involvement is that which is structured, coercive in nature and directed towards a specific goal. Athletes in Study Three articulated that psychologically and physically their sport involvement became more intense and demanding when it "became more serious". By this, athletes meant that training was more regimented, more commitments to training and competition were demanded of them, their daily lives were structured almost entirely around their sport, and increasingly there was pressure to achieve performance goals. Athletes shifted progressively from a motivational profile characterised by the motives of fun, enjoyment and satisfaction where they wanted to be involved in their sport at every available opportunity, to one where they felt coerced into training and competing, having to be there rather than wanting to and being exposed to constant pressure to progress in order to be successful. An additional consideration to this proposal of work related sport involvement is the meaning of this involvement to athletes. As discussed in Study Three an existential perspective of burnout argues that a person must be lit up before they can burnout (Pines, 1993). For athletes to burnout their sport involvement must at some stage, be personally meaningful to them. They have to care about it. Research has already linked burnout with a strong athletic identity (Coakley, 1992; Cresswell & Eklund, 2006a) but a perspective which examines the relationship between personal meaning of sport involvement and burnout, appears to be a worthwhile avenue for future research.

Theoretical considerations

A number of theoretical perspectives have been offered within the athlete burnout literature which attempt to explain how the syndrome manifests, and subsequently affects the athlete. An analysis of the empirical research base in this area conducted in Study One however, identified limited empirical support for these models, principally because there has been very little systematic testing of them. This is a notable gap in the research and an important consideration for future research.

Recent efforts to advance theoretical thinking within the literature have promoted a motivational explanation for burnout through the application of Self
Determination Theory (Ryan & Deci, 2000) (e.g., Cresswell & Eklund, 2005a) and a stress-recovery approach (e.g., Kallus & Kellmann, 2000; Kentta & Hassmen, 1998). With the introduction of these more contemporary theoretical perspectives, there is evidence of greater scientific rigour through the purposeful testing of models through techniques such as structural equation modelling (Cresswell & Eklund, 2005a) and linear mixed modelling (Cresswell & Eklund, 2005b), and the operationalisation of theoretical perspectives through the development of tailored self-report measures (e.g., RESTQ-Sport, Kellmann & Kallus, 2001; TQR, Kentta & Hassmen, 1998). Although historically then, athlete burnout research has been lacking in strong theoretical underpinning, there can be optimism through more recent endeavours.

In Study Two, systematic testing of process models of burnout was undertaken within a longitudinal data collection framework. Models originally proposed by Leiter and Maslach (1988), Golembiewski and Munzenreider (1988) and Van Dierendonck, Schaufeli and Buunk (2001a) from the professional context were tested through path analysis. These models attempt to explain how burnout develops over time through the prediction of sequential pathways between the three dimensions of burnout (i.e., one dimension predicts the onset of another). Model predictions were tested both within time (cross sectionally) and across time (longitudinally) but data failed to support any of the models fully. Through post hoc analysis model modifications were proposed which resulted in Leiter and Maslach’s (1988) being supported within time, and that each dimension was the strongest predictor of itself across time. Explanations for these findings were offered relating to issues concerning the effectiveness of the longitudinal design employed in capturing burnout, as well as possible contextual differences between the professional domain (where the models were originally advanced) and the sport domain (where to date there have been no examinations of process models of athlete burnout). Through qualitative exploration of athlete experiences of burnout in Study Three however, a potential process model of athlete burnout emerged.

Athletes were asked if they felt dimensions were inter-related and how these relationships developed. What emerged in the majority of the athlete stories (11 of the 13 athletes interviewed) was a sequential ordering of dimensions where physical and emotional exhaustion was the dimension most often associated with early experiences of burnout. This dimension was in turn linked to feelings of reduced athletic accomplishment. Athletes’ responses to performance issues often involved
the exertion of greater effort to improve performance but this led to a cycle of further performance frustration which, in turn exacerbated both feelings of exhaustion and reduced accomplishment. This relationship has been observed in other athlete burnout research (Cresswell & Eklund, 2006a), and is considered to be bi-directional. Athletes described being able to sustain this for a period of time, until reaching a point when they began to question how they were feeling and their continued sport involvement. The development of negative attitudes towards their sport and problems with motivation were associated with the onset of the sport devaluation, and hence this dimension is considered to be the result of the accumulating effects of physical and emotional exhaustion and reduced athletic accomplishment. Again this has been proposed in earlier research (Cresswell & Eklund, 2006a). A summary of these relationships and a diagrammatic presentation of the process of athlete burnout are provided in Figure 3.

![Diagram](image)

**Figure 3: A diagrammatic representation of the athlete burnout process**

Note: PEE = physical and emotional exhaustion, RA = reduced athletic accomplishment, DV = sport devaluation.

The research which resulted in the proposal of this model represents one of the first investigations to explore burnout as process among athlete populations. Therefore there is much exploration still to be undertaken. A consideration for future
research exploring burnout as a process is the inclusion of extraneous variables that influence the development of each dimension. Central to process models is the interaction between the dimensions but we must also learn what causes the dimensions to manifest beyond simply the other dimensions. From the work setting Cordes et al. (1997) identify that variables characterised by demand stressors such as high work demands, work overload, insufficient time and manpower to accomplish the job, intense or emotionally charged interpersonal interactions, greater numbers of interactions and handling a large volume of clients on a daily basis, are all predictors of emotional exhaustion. The development of depersonalisation is associated with an environment that is bureaucratic, impersonal, rigid or controlling, and where there is non-contingent punishment. Finally reduced accomplishment is predicted by variables that suggest one is unappreciated, one’s efforts are ineffective, or one’s competence or performance is low. To more fully understand the process of athlete burnout, equivalent predictors for each of the dimensions should also be explored and identified where possible.

Methodological implications

This section discusses the key methodological considerations that were identified during the research process, and outlines the associated implications for future research.

From a professional burnout perspective, Jackson, Schwab and Schuler (1986) observed just over twenty years ago that “twenty years from now we will have more data but not much more knowledge” (p.637). With respect to athlete burnout research, examination of early work conducted seems to suggest that Jackson and colleagues may have indeed been accurate in their prediction. Principle in the methodological shortcomings of this work is the influence of the two factors that have historically presented the greatest barriers to burnout research generally, these being: 1) the lack of conceptual agreement and 2) the development of a valid and reliable measurement and assessment tool (Raedeke, 1997). Add into this also, the absence of a strong theoretical rationale based on systematically tested frameworks. Significant advancements have been made with respect to each of these issues but greater congruence in how they are adopted within research approaches is still needed.

In Study One the literature was examined to provide a summary of the methodological approaches that had been employed to date. Most notably self-report
tools have been the instrument of choice for the measurement of burnout, and related to this, the majority of research designs have been quantitative and cross sectional in nature. This trend mirrors research in the professional domain, and with respect to both contexts, an interesting observation is that throughout the literature researchers argue that longitudinal data collection and qualitative methods potentially offer the greatest opportunity to advance understanding of burnout as a phenomenon (e.g., Leiter, 1993; Cordes et al., 1997; Gould et al., 1997; Cresswell & Eklund, 2006a), yet they are at present, significantly under utilised.

Study Two employed a longitudinal design in an attempt to observe burnout as a process and to identify individuals who were experiencing burnout. As already discussed, the study’s failure to support any of the process models examined may reflect theoretically and contextually based considerations but also a number of issues arose concerning the practicalities of doing longitudinal research on burnout. On the complexities of developing and undertaking longitudinal research Nesselroade and Baltes (1979) warn that:

If longitudinal research is not properly designed and the resulting data not carefully analysed, it has the disturbing characteristic of appearing to be a design panacea but being a Panadora’s box for the interpreter. In fact, once longitudinal research on behavioural development has been conducted, the difficulties of interpretation occasionally become substantially more apparent than its curative properties. (p.31)

Study Two attempted to address some of the limitations associated with previous longitudinal designs (i.e., number of time points for data collection and the timing of intervals between them) but in particular, there were significant difficulties in how to assess changes in burnout scores overtime. This has been an issue in other longitudinal research (Bursich, 2002) but is potentially exacerbated in the sport context, where although the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001) has been developed to assess athlete burnout, there is at present no guidance as to how to interpret scores, or at what point an individual is identified as experiencing burnout. Research employing the Maslach Burnout Inventory (MBI) (Maslach and Jackson, 1996) has been aided by the establishment of cut off points which indicate different levels of burnout, and clinical cut offs have also been identified which has facilitated its use as a diagnostic tool (Schaufeli, Bakker, Hoogdum, Schaap, & Kladler, 2001). The establishment of valid cut off points for
the ABQ would represent an advancement that would be instrumental in enhancing both the effectiveness, and the ease of doing longitudinal research on athlete burnout. Although there is agreement that longitudinal research would enhance understanding of the causality of burnout and the burnout process, the quest for future research is to establish a strategy where longitudinal designs are able to accurately capture burnout across time.

Study Three employed a qualitative approach in order to explore personal experiences of burnout. The interview process undertaken was richly rewarding both in terms of the level of detail and insight that athletes were able to offer but also through the opportunity to engage in a face-to-face interaction with someone who has actual experience of the syndrome. An original objective of the longitudinal design employed in Study Two was to identify athletes who were currently experiencing burnout in order to carry out a qualitative follow up. Four individuals displaying higher perceived burnout scores relative to sample mean were identified but it was not possible to recruit them into a further research study. The formulation of this objective to identify individuals who were living with burnout came from the simple fact that the majority of burnout research has been carried out on individuals who do not actually have burnout (Cox et al., 2005). This is a fundamental flaw of the burnout literature, and although the difficulty in locating cases of burnout is acknowledged, it does not make logical sense, nor is it helpful to the validity of burnout research, to continue to conduct large scale quantitative studies on individuals who are not experiencing burnout (or low perceived burnout).

Although the athlete stories in Study Three provided a significant insight into athlete burnout, a notable limitation of the study was that the interviews were carried out retrospectively. The criticisms of retrospective research, and the assumptions concerning the accuracy of information reported under these circumstances, have been well voiced within academic circles, however there are approaches emerging within sport psychology research which propose that the accuracy, and hence validity and reliability, of retrospective interviews can be improved (Cote, Ericsson, & Law, 2005). On the topic of athletic development Cote et al. suggest that as a result of the inability to predict (with certainty) which young athletes will reach the highest levels of performance until after the fact, that retrospective interviews of outstanding athletes will remain one of the primary sources of information in this area, for the foreseeable future. Due to the difficulty in both locating individuals who are
currently experiencing burnout, and methodological problems associated with longitudinal designs, this may be the same for research exploring athlete burnout.

**Applied implications**

The applied implications discussed within this section have emerged as significant themes within the programme of research, and are divided into three main groups: 1) Intervention development; 2) Athletes and their support team; and 3) Sport organisations.

**Intervention development**

Criticism of burnout research is that it has to some extent remained more conceptual and theoretical in its thinking, than practical and applied (Cox et al., 2005). Cox and colleagues observe that ‘many researchers enjoy measurement and analysis, but at the same time we should not allow this to lead to a degree of paralysis of practical action’ (p.190), and also remind researchers that ‘we must not lose sight of the ultimate goal, which is its [burnout] prevention, its treatment and the rehabilitation into the workplace of people who have been severely burned out’ (p.191). With this objective in mind, a potentially worrisome observation made in Study One is the absence of any intervention studies in the burnout in sport literature. Studies have proposed recommendations that give guidance to practitioners on how to identify early warning signs of burnout (preventative intervention) and how to work with the athlete who is experiencing the syndrome (management based intervention). Although not actually reporting a tried and tested intervention, this information is useful as it has been extrapolated from retrospective discussion with athletes who have actually burned out (e.g., Gould et al., 1996b; Cresswell & Eklund, 2003). A major objective of future research therefore, must be intervention studies but this is by no means a straightforward task. The implications already discussed with regard to the debilitative nature of burnout and the conceptual, theoretical and methodological problems that have flanked the fields’ development, create a very real “chicken and egg” situation for the development of interventions. In order to design and implement effective interventions researchers must locate cases (or as a minimum, potential cases) of burnout (who are also willing to participate), develop interventions that are informed by clear conceptual thinking and underpinned by a strong theoretical rationale, and which can be monitored and evaluated accurately. At the same time, the field must move forward in actually implementing interventions rather than simply theorising about it, if we are to learn what works and what does
Despite this somewhat pessimistic picture of the existent burnout in sport literature, there is reason for optimism with regard to the future and intervention work. Through the conceptual consensus that is beginning to emerge towards Raedeke's (1997) three dimensions of athlete burnout and the development of the ABQ, possible frameworks for intervention seem poised to be developed. There is still much that can be learned from intervention approaches that have been adopted in the professional domain (although these are also comparatively few in number), and there are common messages and recommendations emerging from the qualitative exploration of athletes experiences (e.g., Coakley, 1992; Gould et al., 1996b; Cresswell & Eklund, 2003 and 2006a). From the present research (and Study Three in particular) a number of potential avenues for intervention were identified, and these are outlined in the following summary.

**Avenues for intervention.** Intervention approaches for burnout comprise prevention and management strategies and these may be directed at an individual or organisational level (Cresswell & Eklund, 2003). The avenues for intervention detailed in this summary relate predominantly to work that focuses on the individual, organisational considerations are discussed in more detail in the later section *sport organisations.* Through the further exploration of the key manifestations associated with each dimension (Study Three), and the inter-relationships between them proposed within process models (Study Two and Three) it may become possible to direct interventions specifically around the dimensions. For example, a key manifestation for physical and emotional exhaustion was insufficient recovery and hence intervention could focus on enhancing the quality of both physical and mental recovery. Sport devaluation was strongly associated with motivational loss and the development of negative attitudes; therefore intervention might usefully target interpersonal relationships between athletes and support staff so that athletes are able to communicate how they are feeling. Also motivational loss may be targeted specifically through variation in training, and encouraging a greater sense of control and autonomy in athletes through working with athletes and coaches in partnership. Finally reduced athletic accomplishment essentially comprised issues relating to performance accomplishment and self efficacy. In high performance sport it is difficult to de-emphasise performance entirely but strategies may be implemented to focus on a process and performance orientation rather than entirely outcome.
this dimension a critical psychological variable underpinning its manifestation is a declining sense of competence, therefore interventions may also specifically target this variable through identifying opportunities to increase feelings of competence, and confidence.

Chemiss (1993) proposes that enhanced self efficacy may be an important intervention in reducing stress and burnout. She describes that professional self efficacy occurs in three different domains of professional role performance; task domain, interpersonal domain, and organisational domain, and that in turn; intervention strategies which develop greater self-efficacy can be implemented in any of these. Task domain self efficacy refers to technical aspects of the professional role. For athletes this would relate to skills execution and how competent they feel in executing such skills. The structure and organisation of practice, and opportunities to gain performance mastery experiences are therefore important in enhancing task domain self-efficacy. The interpersonal domain refers to a person's ability to work harmoniously with others. This domain is more pertinent to occupations such as the helping professions but has relevance in sport in the context of team sports, and for athletes in working with coaches and other support staff. The coach-athlete relationship is potentially a significant source of interpersonal self-efficacy, and hence the development of positive relationships here may also be important. Finally, the organisational domain concerns beliefs about one's abilities to influence social and political forces within the organisation. Organisational constraints and demands are considered to be significant sources of burnout (Chemiss, 1993). Moreover, if self-efficacy beliefs in this domain are low and there is a perceived lack of ability to influence organisations, stress results. Although athletes may not wish to effect organisational change, pressure and stress associated with sport organisations was a significant feature in the athlete stories reported in Study Three. Part of the intervention work here is for practitioners to work with sport organisations but also intervention targeting athletes should be implemented principally to enhance coping strategies to deal with organisation related issues.

Stress is a significant feature of burnout and it is the result of an imbalance between demands and personal resources (both perceived and actual). Demands placed on elite athletes today are significant, competition is fierce and in a bid to compete athletes are required to do more and train harder (Kentta & Hassmen, 1998). These demands inevitably impact personal resources and if not well managed, lead to
depletion of these resources which potentially gives way to conditions such as burnout. Adaptive coping strategies have already been identified as an important strategy in preventing burnout in athletes (Gould et al., 1996a) but this also represents a 'proactive' opportunity to intervene and safeguard athletes from burnout. Simple but effective practical coping strategies can be introduced to athletes within their sport education such as, the monitoring of the quality of their recovery, to encourage athletes to become more self-aware of their own physical and mental state.

The inter-relationships reported between dimensions also highlight opportunities for early intervention. For example, the emergence of physical and emotional exhaustion was associated with earlier stages of burnout, and later became connected performance and issues around performance accomplishment, and eventually devaluation. Intervention may therefore target the onset of the dimensions as they occur if indicators of the dimensions can be established clearly enough. Further work examining burnout as a process may also open up avenues that give an indication of the stage and severity of burnout that an athlete is experiencing if there is a sequential ordering to the development of the dimensions of burnout as suggested by existent process models.

**Athletes and their support team (e.g., coaches, parents)**

Implications for athletes and their sport team which emerged from the programme of research mainly focus on education and raising self-awareness. As we become clearer on what constitutes burnout, how it manifests and how it may be prevented, this provides important information through which to better educate those at the coalface. As Cordes et al. (1997) describe, if the problem of burnout is to be effectively addressed we need to know what to be on the look out for. For athletes specifically, an overwhelming observation from the athlete stories of burnout (Study Three) was that they were unaware of what they were experiencing. The predominant mindset when training or competing began to slip was to train harder. A number of athletes described not knowing what was wrong, how it had happened or what to do about it. Self monitoring and hence enhanced self awareness are critical areas of development for athletes as they progress through their careers. In order for this self-monitoring to be effective however, there must be an environment in which such practice is promoted and the information identified from it, acted upon. Coaches and other members of the athletes support team have a critical role in encouraging self-monitoring by athletes, and also becoming aware of their own role in preventing
burnout. Study One highlighted that the influence of coach and parent behaviour on athlete burnout is at present indeterminate and can be both positive acting as a buffer to stress and offering social support, and negative as potential sources of stress and pressure for athletes. Athletes in Study Three reported that their experiences of burnout were often associated with feeling that they did not have a supportive social network around them, and someone to turn to when they became aware that they were struggling. In addition, they also discussed interpersonal difficulties where they felt unable to communicate with others. The athletes support team may therefore, do a great deal to reduce the stress an athlete is experiencing, to encourage the athlete to monitor their own physical and mental well being, and to be a source of social support to help athletes cope more effectively.

Sport organisations

Pines (1993) argues that organisations can prevent burnout through reducing organisational stress and enhancing self-efficacy if they provide resources and reduce obstacles in order to help people achieve meaningful goals. Within the athlete stories reported in this programme of research (Study 3), organisational stress emerged as a significant issue affecting athletes, and earlier studies of athlete burnout have also reported that the organisation of sport can create climates that are conducive to the incidence of burnout (Coakley, 1992; Gould et al., 1996b; Cresswell & Eklund, 2006a). Research exploring professional burnout has placed notable emphasis on the role of organisations in both the aetiology and prevention of burnout (Masalch, 1993). In contrast, within the sport context athlete burnout has historically been attributed more to a personality weakness (Gould et al., 1996b), and as identified from the systematic review in Study One research attention has to date, focused predominantly on such factors. Through more contemporary perspectives including the stress-recovery relationship (Kentta & Hassmen, 1998; Kellmann & Kallus, 2000) environmental factors are beginning to be explored more, and there has been a slow but steady stream of studies exploring the impact of sport organisation personnel, most notably coaches (e.g., Vealey, Comar, Armstrong & Vealey, 1998; Price & Weiss, 2000), on the incidence of athlete burnout. This type of research has a vital role to play in the education of sport organisations and personnel working within them, in order to inform their daily practice in working with athletes.

Organisational stress has been examined within the sport context and researchers (Fletcher & Hanton, 2003; Woodman & Hardy, 2001) have advanced a
model identifying four key sources of organisational stress, these include:
environmental issues (e.g., selection, training environment and finances); personal
issues (e.g., nutrition, injury, and goals and expectations); leadership issues (e.g.,
coaches and coaching styles); and team issues (e.g., team atmosphere, support
network, roles, and communication). This model offers a useful framework through
which to explore the relationship between organisational stress and athlete burnout
but also has an attractive practical appeal in that it presents clear components of the
sport organisation that can be easily disseminated into the language of the sport. As
such, it offers a pragmatic approach for sports to address issues relating to both the
prevention and management of athlete burnout. Equally a pragmatic response from
sport organisations however, that advocates of athlete burnout research must still
make a case for, is ‘what is the prevalence of athlete burnout?’ To date the only
information relating to prevalence figures among athlete populations is provided by
Gould and Dieffenbach (2002) who re-analysed data from a study of club swimmers
by Raedeke (1997). It was reported that 1 to 5% of the sample of 236 swimmers
experienced some form of burnout. For sport organisations to encourage
organisational change in order to combat problems of burnout, like any organisation,
they must be convinced that there is a need for such change. Maslach (1993) explains
that professional burnout research has struggled to be taken seriously because the
existence of the burnout phenomenon has been denied, or attributed to a small
minority. Hence the development of prevalence data, as well as the identification of
potential ‘at risk’ groups, has significant implications for future action by sport
organisations and personnel working with them towards athlete burnout.

Future directions

Future avenues for athlete burnout research have been discussed specifically
at the end of each of the three studies contained in this programme of research but
this section aims to amalgamate the themes that are considered most significant in
advancing the knowledge base of the field. Recommendations included here relate
specifically to athlete burnout research but also echo some of the future directions for
burnout research generally

For athlete burnout research to continue to progress there must be conceptual
agreement on what constitutes athlete burnout. Raedeke’s (1997) three dimensions of
burnout provide an opportunity to attain conceptual consensus but further research is
needed to validate this conceptualisation. Study Three is however, only the second
study to specifically explore the characteristics associated with these dimensions utilising an athlete sample, and the first to explicitly examine athlete views on the three dimensions. Questions concerning whether these are the right dimensions, or whether there are too many or too few, that have confronted Maslach and Jackson's (1986) original conceptualisation in the professional context (Schaufeli & Taris, 2005) need further investigation within athlete populations. Two potential strategies that may advance understanding of the conceptualisation of athlete burnout, and the efficacy of the prevailing dimensionality of the syndrome, these are: 1) utilisation of inductive qualitative approaches, and 2) more detailed contextual analysis of the nature of burnout in the sport context and among athletes specifically. There is a danger of sport psychology blindly following the professional literature in advocating that athlete burnout is best conceptualised as three dimensions. This is the most popular conceptualisation within the professional domain (Schaufeli & Buunk, 2003), and this makes it intuitively appealing but this should not automatically result in an equivalent position within the sport domain without thorough investigation. Inductive approaches such as a concept analysis, development of skeleton framework and scaffolding (Morse & Mitcham, 2002) would enable the concept of burnout to be explored further within the sport context, without the constraints of earlier conceptual thinking. Morse and Mitcham explain that a concept analysis involves an in-depth exploration of the literature:

- critically analysing it as a whole, deconstructing the concept to identify the attributes or characteristics, assumptions, gaps, limitations, differing perspectives (including the way the concept has been developed in different contexts or disciplines), and different forms of the concept for different functions (p.7).

As a result of this process the researcher is 'not blinded by ignorance, or by the present 'party line’ theories, models and myths that seem pervasive in the literature’ (Morse & Mitcham, 2002, p.7). The researcher is then able to develop a skeletal framework which provides a comprehensive map of the concept so that premature closure does not occur. Data collection enables the meat to be put on the bones and remains broader than the original concept to ensure essential data is not missed, excluded or ignored through the principles of saturation and verification. Finally scaffolding occurs when more is known about the concept and the sampling focus is narrowed. The researcher may make assumptions about the attributes or
characteristics of the concept but these can be explored inductively by using what is already known as a comparative template over the emerging information. Morse and Mitcham (2002) explain that data collection proceeds until eventually the scaffolding can be dismantled and the theory stands alone.

The second proposal for exploring the dimensionality of burnout is through greater contextual analysis to more fully understand what burnout actually looks like in athletes compared to other domains. Although the literature is moving progressively towards an answer, a question raised by Smith (1986) over twenty years ago remains pertinent today, the "extent to which the nature, causes, and consequences of athletic burnout are unique and to what extent they are shared by those who suffer burnout in other domains of activity" (p.44).

Alongside clear conceptual thinking is the need for a strong theoretical underpinning to athlete burnout research. The literature contains a number of important theoretical perspectives but they have not been exposed to the rigor of scientific examination, and hence are not tried and tested. As new frameworks are beginning to emerge it is also important to identify which theories have value in advancing knowledge and understanding of athlete burnout, and which can be considered ineffective or redundant.

There is consensus within the literature that longitudinal research is an important area for future research interests but it seems that efforts would initially be better spent, on developing an effective paradigm through which to conduct this type of research. The main quandary is how to measure changes in burnout overtime. This would be aided by the development cut off points for the Athlete Burnout Questionnaire which indicates different levels of burnout, and this may therefore be an objective for future research.

Although this programme of research has focused on exploring burnout as a process, it is proposed that the greatest gains to research would be through a synthetic perspective of burnout. The process eventually leads to the state, and hence collectively they represent the phenomenon of burnout. A synthetic approach is also likely to enhance the effectiveness of intervention strategies by tailoring them to the needs of the individual (i.e., the athlete who is burning out vs the athlete who is burned out).

Emerging strongly from the research approach adopted in Study Three, and the resultant findings, was that the timeframe for burnout as a process included
preceding events and/or dispositions that left athletes susceptible to the syndrome, and that athletes continued to be affected by burnout once they had physically withdrawn from sport. An existential perspective was proposed in Study Three to explain some of the athletes’ experiences of burnout and this would seem a useful perspective through which to explore the lives of athletes before they experienced burnout, and to unravel what variables (psychological and environmental) led to their susceptibility to the syndrome. Also once athletes chose to leave their sport they explained that the effects of burnout did not disappear entirely. For some athletes there were long term consequences which continued into later life. There has been limited exploration of the consequences of burnout but this would seem an important avenue of enquiry, particularly with regard to the rehabilitation of individuals.

The reporting of prevalence data on the incidence of burnout is not only important to raising awareness of the syndrome and motivating efforts to take action to safeguard athletes against it but also in directing efforts towards those most vulnerable. Coakley (1992) suggested that burnout is higher in individual sports and this remains one of the few speculative propositions of the types of athletes who are at risk. It has not yet been tested however, and to date there is no research which has examined at risk groups of athletes.

Within the professional literature researchers have advanced profiles of burnout (comprising different levels of each of the three dimensions) across different occupations. For example, Schaufeli and Enzmann (1998) report that higher emotional exhaustion and reduced performance accomplishment are associated more frequently with professions such as social workers and nurses, while depersonalisation is higher among law enforcement. Gould et al. (1996b) identified different strains of burnout (i.e., physically driven vs psychologically driven) among tennis players, and with the introduction of the ABQ it may be possible to investigate these strains utilising Raedeke’s three dimensions of burnout. This would be useful in identifying potential differences in the manifestation of athlete burnout among different types of athletes and athletic groups, and may also help to tailor intervention strategies.

Related to occupational burnout profiles, the professional literature has also reported cultural differences in burnout profiles (Schaufeli & Enzmann, 1998; Schutte, Toppinen, Kalimo, & Schaufeli, 2000). Within the sport burnout literature there has been an overrepresentation of North American athletes. Based upon the
cultural differences reported in the professional literature it would be interesting for future research to undertake cross-cultural comparisons in athlete burnout.

Brustad and Ritter-Taylor (1997) observe that “psychological processes in sport are inextricably linked to the social contexts within which they occur” (p.107) but that “cognitive emphases within modern psychology have further contributed to the tendency to direct the spotlight at the individual level rather than to focus more broadly” (p.108). With reference to applied sport psychology they propose that there is a need to move away from this cognitive approach which has a tendency to focus on “personal issues” and ignores the social dimensions of influence. Addressing athlete burnout specifically, it is proposed that such social dimensions include sport subcultures which promote a “more is better” climate, poor communication patterns between coaches and athletes and the structure of sport set out by sport organisations. They propose that burnout should be considered from a social psychological perspective and that as such approaches to intervention should “entail the simultaneous and balanced consideration of personal and social influences”. From the professional domain Ashforth and Lee (1997) argue that a “substantive but relatively neglected content area that offers much promise for extending theory on the burnout process....is the psychological and social-psychological construction of burnout” (p.706). Mirroring the professional literature, the exploration of social influences on athlete burnout has been limited to date but it seems that a social psychological perspective may help to both advance theoretical understanding, as well as inform the development of interventions, and their subsequent implementation in applied practice.

Finally, there have been repeated calls within the literature to undertake more qualitative exploration of burnout (Gould et al., 1997; Leiter, 1993) and mixed method approaches (Dale & Weinberg, 1990) Ashforth and Lee (1997) propose that:

A return to qualitative methods that gave birth to the scholarly notions of burnout may help jump-start our theorising about burnout dynamics. A great deal of current survey research appears rather sterile, endlessly recycling the same concepts and measures. In contrast, interviews, diaries, observations and so forth can help capture the strivings, ambivalence, hopes and fears, and contradictions that typically permeate the experience of burning out...Additionally, qualitative methods can greatly enrich interpretation of survey scores. (p. 705)
Immediate steps forward in employing more qualitative approaches could be through the use of inductive approaches to enable the concept of burnout to be fully explored without imposing existing frameworks (as identified in Study Three), as well as the continued exploration of these frameworks. Also due to the difficulty in locating cases of individuals who are currently experiencing burnout, improving the validity of retrospective interviews would seem a useful venture. Cotes et al. (2005) suggest that the validity of retrospective interviews can be improved through the use of both subjective and objective parameters. Cresswell and Eklund (2003; 2006a) have coincidentally proposed that signs of burnout are both subjective (perceived by athletes) and objective (viewed by others), and that future research could improve recall in burnout cases through the use of subjective and objective performance outcomes. The use of more objective measures may include performance records such as win/loss, and also the inclusion of the perspectives of significant others within the athletes' social environment. To date there has been very little exploration of the observations of significant others (e.g., coaches, parents) on athlete experiences of burnout (e.g., Raedeke, et al., 2002; Udry et al., 1997), rather it has tended to focus on how they may affect the incidence of burnout. Exploration of such perspectives would not only serve to validate athlete accounts but also potentially inform the theoretical base of burnout research, and in turn, the advancement of effective intervention strategies.

*Limitations and delimitations*

Limitations of the research programme have already been discussed within each of the individual studies but key limitations and delimitations are considered here.

Each study contained the delimitation of specific inclusion criteria (or purposive sampling) in order to establish sample groups considered most valuable to the research question but which by default, presented limitations to the generalisability of findings. In Study One this inclusion criteria related to published research and research written in English. The systematic review cannot therefore be considered exhaustive and fully representative of the burnout in sport literature, although strong rationale for the use of the inclusion criteria was provided. In the other two studies (Study Two and Study Three) athletes were purposefully sampled based upon their elite performance standard. It was considered that as a result of the demands of the competitive environment the incidence of burnout would be
potentially higher amongst this type of population group. With reference to Study Two, the low level of burnout reported across participants was considered to be a limitation as it begs the question of whether burnout was really being examined. This coincides with Cox et al.'s (2005) observation of the burnout literature tending to report on the syndrome in samples that are 'healthy'. This limitation was overcome in Study Three where the inclusion criterion was athletes who had previously experienced burnout (although this was determined by athletes themselves rather than objective assessment). The retrospective nature of the interviews conducted also raised its own limitations associated with retrospection. The collaborative interview approach is limited by the fact that it relies on a high level of self-awareness from athletes when reflecting on their experiences.

In addition to inclusion criteria delimiting the research programme, another significant delimitation was the adoption of Raedeke's (1997) conceptualisation of burnout. Part of the appeal of this three dimensional conceptualisation to the sport context is undoubtedly its popularity within the professional domain. This does not automatically mean that it should adopt the same position within the sport context, and it must be remembered, it is only one of a number of competing conceptualisations.

**Strengths**

By undertaking a systematic review in Study One it was possible to stand back and gain a useful wider perspective on what the burnout in sport literature looked like, and more specifically what was known and what was not, with regard to athlete burnout. Through a synthesis of the literature it became immediately obvious where the gaps in the literature were and what would make a positive contribution in moving research forward. As observed in Study One the field has previously been guilty of one shot approaches, with little or no follow up on a large number of variables that have been explored. The deliberate intention of the research programme was not to do the same and contribute more data without more knowledge (Jackson et al., 1986).

A significant flaw of the burnout in sport literature to date (identified in Study One) has been the conceptualisation of burnout as a state as denoted by the prevalence of cross-sectional designs. To simply look at burnout as an experiential state means that intervention and management strategies will be limited in their effectiveness. The stable door is shut once the horse is bolted. Thus Study Two
sought to take a more prospective approach to athlete burnout and explore it longitudinally as a process. The application of a process approach is also a first for athlete burnout research.

Finally a strength of Study Three was its objective to build on existing conceptual thinking but to also ask the question of whether Raedeke’s (1997) conceptualisation is actually demonstrative of athlete experiences of burnout. Thus far in the literature Raedeke et al. (2002) have asked coaches about the three dimensions, and Cresswell and Eklund (2006a) have used the three dimensions as a framework through which to analyse athlete responses to ‘indirect’ questioning on the topic of burnout. Cresswell and Eklund explain that they chose not to explicitly use the term burnout due to negative connotations associated with it, and instead to examine it indirectly through the exploration of athlete experiences (positive and negative) across a season. Therefore both a strength and possible weakness of Study three is that it asks athletes explicitly for their views on the three dimensions, and to offer critical observations of the dimensions in relation to their personal experiences of burnout.

Final thoughts

The challenges to understanding, and in turn, combating athlete burnout essentially echo those of the wider burnout research field, and fundamentally hinge upon the resolution of a handful of key issues which include: conceptual agreement; theory-driven research; accurate assessment and measurement; and development of effective intervention. The field is still comparatively young and the athlete burnout literature in particular is experiencing a time of keen interest and buoyancy in terms of research being undertaken and publications emerging. Tom Raedeke’s contribution to conceptual thinking (Raedeke, 1997) and the assessment of athlete burnout (Raedeke & Smith, 2001) has been instrumental in paving the way for future research.

Moving forward it is important to learn lessons from the past and avoid the pitfalls that have been endemic in the history of the field, this thesis will therefore conclude with a brief reflection on some of these lessons in order to guide practitioners and researchers in the future.

1. Metaphor and a syndrome - Burnout has been a described as both a powerful metaphor that is easily understood, applied and recognised, whilst it is also a diagnosable clinical syndrome (Schaufeli & Enzmann, 1998). In some
respects this has been at the root of the issue of conceptual clarity in that burnout is something that is easy to see (metaphor) but not easy to define (syndrome). If intervention efforts are to be enhanced the value of burnout as a metaphor is limited as this is inevitably arbitrary and vague, and it seems future efforts may be better served by focusing attention on burnout as a syndrome.

2. *Lots of data...but not necessarily more knowledge* (Schaufeli & Enzmann, 1998). Although this comment by Schaufeli and Enzmann is most certainly directed squarely at the professional burnout literature, an underlying message for the burnout in sport field is the importance of theory driven research. Limitations of early burnout research were the lack of clear conceptual thinking and sound theoretical rationale. In moving understanding of athlete burnout forward it will be important to be mindful of the types of questions asked and the strategies employed to answer them.

3. *Burnout in healthy people* – The nature of the syndrome means that it is difficult to locate individuals who are currently experiencing burnout, and the observation of extant research, is that it has more often been conducted on individuals who are healthy and not experiencing burnout (Cox et al., 2005). To understand burnout more fully, researchers must seek out those who have experience of it.

4. *Losing sight of the ultimate goal* – Cox et al. (2005) describe that the ultimate goal of burnout research is to inform practice, and to guide the efforts of practitioners in the prevention, management and rehabilitation of people with burnout. In order to do this intervention work must be undertaken. Building on Schaufeli and Enzmann’s (1998) concerns about more data but not more knowledge, is the potential here for the generation of more ‘theoretical knowledge’ but not more ‘applied knowledge’.

5. *The popularity trap* – Maslach and Leiter (1993) express concern that the term burnout is in danger of burning out from overuse. The evocative power of burnout as something that appears readily identifiable, and something that people can easily relate to has meant that the concept has become stretched to include more than was originally intended. Schaufeli and Enzmann (1998) warn that the popularity trap “stimulates the articulation of quick and simple questions, dubious assessment methods, and inferior interventions” (p.186).
Within the sport context burnout continues to be confused with the related terms of overtraining and staleness (e.g. Smith, 2006), and further work providing a clearer distinction between concepts is still needed. Also although Raedeke's (1997) conceptualisation of athlete burnout and its operationalisation through the Athlete Burnout Inventory (Raedeke & Smith, 2001), provides a means through which researchers may have greater conceptual clarity, it must not open the door to a scattergun approach to research as observed in early burnout research (Study One). Moreover it is important to be mindful that researchers remain uncertain as to the actual prevalence of athlete burnout. The prevalence data that does exist on athletes (e.g., Gould & Dieffenbach, 2002) and from the professional literature (e.g., Schaufeli & Enzmann, 1998) suggests that it affects only a minority of individuals (i.e., 1 to 5% and 8 to 15% respectively). This is a significant minority, the implications affecting which justify its continued exploration by researchers. However clearer conceptual thinking and assessment tools does not automatically mean that vastly greater numbers of individuals affected by burnout will be identified. Researchers will continue to need to be purposive in sampling to locate individuals affected by the syndrome.
References


199


Sport Psychologist, 17, 55 – 76.


Appendix 1. Athlete Burnout Questionnaire

Please read each statement carefully and decide if you ever feel this way about your current sport participation. Your current sport participation includes training. Please indicate how often you have had this feeling or thought this season by circling a number 1 to 5, where 1 means "I almost never feel this way" and 5 means "I feel that way most of the time." There are no right or wrong answers, so please answer each question as honestly as you can. Please make sure you answer all items. If you have any questions, feel free to ask.

How often do you feel this way?

<table>
<thead>
<tr>
<th>Almost Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I'm accomplishing many worthwhile things in my sport
2. I feel so tired from my training that I have trouble finding energy to do other things
3. The effort I spend in my sport would be better spent doing other things
4. I feel overly tired from my sport participation
5. I am not achieving much in my sport
6. I don't care as much about my performance as I used to
7. I am not performing up to my ability in my sport
8. I feel "wiped out" from my sport
9. I'm not into my sport like I used to be
10. I feel physically worn out from my sport
11. I feel less concerned about being successful in my sport than I used to
12. I am exhausted by the mental and physical demands of my sport
13. It seems that no matter what I do, I don't perform as well as I should
14. I feel successful at my sport
15. I have negative feelings toward my sport

Thank you very much for your help
Appendix 2. Interview guide phase one: Causes, symptoms and consequences

Hello, I’m Kate Goodger, from Loughborough University, School of Sport and Exercise Sciences. Thank you for agreeing to take part in this interview project. The purpose of my study is to better understand motivation and motivational difficulties amongst elite athletes. It is not always easy to stay motivated with the tough demands placed on an athlete in their daily lives, and I would like to understand more about how this affects individuals.

The interview will be divided into the three parts, the first part we will look at today, the second will be in a few weeks time, and then a follow up in about six weeks. Today I would like to talk a little bit about how you got involved in your sport and your experiences up to now. The second and third parts will involve me bringing along the results from today to check I have recorded your responses properly, and then us working together to explore and put together your personal picture of motivation for your sport. This will be done on an ideas board. I will then show you other people’s experiences of motivational difficulties and give you the chance to see if any of them should be added to your picture. So when we are finished, we should have a good picture of your motivation experiences of your sport.

There are no right or wrong answers in the interview, it is your experiences that are the most important thing that I want to look at. The information you give me is confidential and entirely anonymous. Your participation in the interview project is entirely voluntary and you may refuse to answer a question or withdraw from the interview at any time. I want you to feel that you can be open with your responses and up front about your experiences; I want to learn from you and your expertise. If you have any questions along the way then please ask them. If any of my questions are unclear also please ask. I want to give a truthful account of our experiences.

While we are doing the interview there are a couple of things I would like you to bare in mind. I want to explore your whole sporting career so it may take you a little time to remember things. Take your time to try and recall your experiences and if you have difficulty remembering details please let me know. It is better that I know this than you guess. Also I am interested in your whole experience as an athlete and this is likely to include wider aspects of your life that occurred on and off
the court (field, pool, pitch), including relationships, interaction with others, schedules, funding, education and so on. I want you therefore to discuss anything that you feel affected or influenced your motivation towards your sport.

_Do you have any questions before we get started?

**Sport History and Background**

We will begin by looking at how you got involved in your sport

1. How long have you been involved in your sport and at what age did you begin?
2. What got you involved in the sport?
3. From when you started, how did your involvement progress? For example when did you first join a club and so on....
   Prompt – How are you now involved
4. How would you describe your motivation when you first started your sport? (What did you enjoy most about your sport?)
5. Did you have any idols/role models in your sport? Who were they?
6. Did/do you have any ambitions in your sport? (Have you achieved these?)
7. During your early years, what was the most important thing that kept you playing/competing in your sport?

**Motivational Experiences**

I would now like to look a little more in detail at how your experiences in your sport have affected your motivation. First of all I would like you to think of a time when you have been most motivated about your sport.

8. What was life like for you then? (Describe what a typical day was like?)
9. What was your performance like at the time?
10. What was it that motivated you?
   Prompt - Can you describe how you felt about doing your sport at this time?
11. When you were doing your sport what did you feel like? (physically / emotionally)
12. How did you feel when you had time away from your sport doing other things? (physically/emotionally)?
13. What else was going on in your life at the time other than sport?
14. What was your relationship like with other people from sport and outside sport at the time?
15. What helped you to stay motivated in your sport?

Now I would like to switch things to a time when you have been least motivated about your sport. You may have felt you had a loss or lost your motivation, or you may have thought about quitting.

16. How would you describe your motivation at the time?

17. What was life like for you then? (Describe what a typical day was like?)

18. What was your performance like at the time?

19. Can you describe how you felt about doing your sport at this time?

20. When you were doing your sport what did you feel like? (physically / emotionally)

Prompt – Were there any signs you would associate with how you felt?

21. How did you feel when you had time away from your sport doing other things? (physically/emotionally)?

22. What was your relationship like with other people from sport and outside sport at the time?

23. What else was going on in your life at the time?

24. What do you think caused you to lose your motivation?

25. Did your loss in motivation change you at all, and if so how?

26. How did you cope with your loss in motivation?

27. How would you describe your motivation towards your sport now?

Prompt - Do you think your motivation has changed while you been involved in your sport? Can you tell me a little bit about this? (What motivates you now?).

Sometimes when an athlete loses motivation this is described as burnout. Burnout is made up of three key parts

- Feelings of physical and emotional exhaustion – often associated with training and competition – ‘Just having nothing left’

- A lack of motivation that the athlete once had, and negative feelings towards the sport such as resentment and ‘just not wanting to be there anymore’

- Feeling that they can no longer perform how they used to. Performance may be inconsistent and erratic, and there is a feeling of going backwards.

Do you think you experienced burnout?

Yes / No
Do you think this description accurately describes what it feels like to experience burnout?
Is there anything you think I have missed or need to add?

We have now pretty much finished the interview and I wanted to thank you for your time. Just one last question. Is there anything that you think is important but which we have not discussed or any comments you have about the interview itself?

*Thanks again for taking the time to help me*
Appendix 3. Interview guide phase two: Dimensions of athlete burnout

Hello again. Thanks for agreeing to do the second part of this interview. In this phase we are going to revisit the answers you gave from your first interview, and explore more specifically your experiences and thoughts on burnout. Last time I spoke to you about the three dimensions of burnout and I am keen to discuss these and to investigate whether you think they reflect your experiences of burnout, or if you think there are other ways of looking at burnout.

This interview will be divided into two parts. In the first part we are going to look at the signs and symptoms of burnout that you discussed last time. To do this I have gone through your interview form last time and written down all the quotes or comments you made on how you were feeling physically and mentally, how your performance what going and what life was like for you at the time. I then put these all on to strips of paper which are contained in this envelope. Your first task will be to sort through this and I will explain how in a moment. Through this sorting task we will create a visual picture of your burnout experience on the collaborative interview board here. Once we have completed this, we will move on to the second phase of the interview which will look at how the dimensions are inter-related, if you think they are and how burnout begins to develop.

We will go slowly through each phase and if there is anything that is unclear please stop me and let me know. There are no right or wrong answers and I am really interested in what you think and your experiences. For a large part you will be guiding me through your experiences and I will be walking along side you in the process.

Do you have any questions at this time?
Interview guide phase two: sorting task

Ok as I explained just before in this envelope contains your responses from the first interview. I have not changed any of these statements and they include how you were feeling physically and mentally, how you described your performance, relationships with others and how you were feeling generally towards your sport at the time when you had burnout. I'd like you to read through each statement in turn and then using these definitions of the dimensions of burnout we talked about last time, determine if the statement belongs under any of the dimensions. For example, do you think it is something that you experienced as part of physical and emotional exhaustion, or sport devaluation, and so on. I have written down the descriptions of each dimension again, let me know if they are unclear at all.

You may read the statement and think that it does not belong under any of them. At this point you may decide to leave it out, and if you do please leave it to one side. If you think a statement belongs in the picture of your burnout experience but represents something that is not covered by the three dimensions, feel free to create a new category. There is no limit on this and you can create as many or as a few categories or dimensions of burnout. Remember the aim is to create your personal picture of burnout.

Do you have any questions at this point?

Part one: Sorting task

If you look at the dimensions, do they make sense to you?
Are you happy with the task I have set you, or is anything unclear?

Ok then let’s get started, take your time and if you have any questions as you go through the task, let me know.

Descriptions of each dimension

- Physical and emotional exhaustion is often associated with training and competition and feelings of “Just having nothing left”
- Sport devaluation concerns a lack of motivation that the athlete once had, and negative feelings towards the sport such as resentment and “just not wanting to be there anymore”
• Reduced athletic accomplishment is when athletes feel that they can no longer perform how they used to. Performance may be inconsistent and erratic, and there is a feeling of going backwards.

Sorting task completed

Now that you have completed the sorting task I would like you to have a look at the picture you have in front of you on the board, and the statements you have put under each dimension. *When you look at this picture do you feel happy that it reflects your experiences of burnout? Is it a good picture of what it felt like at this time in your career, or would you like to change anything or add something else in?*

Ok I’d like to look at each dimension in turn and explore it in a little more detail *(Questioning repeated for each dimension and any other categories athletes have identified)*

1. As you look through [physical and emotional exhaustion], can you pick out for me what you think were the key characteristics which represent this dimension for you and your experiences?
2. How would you summarise this dimension if you were describing it to someone?
3. Is there anything else you would like to add in or take out of this description we have here?
4. If you are able to, what do you remember first experiencing associated with this dimension?
5. How do you think this dimension developed for you, what were the events leading up to it?
6. How do you think this dimension affected you both within your sport and outside?

Prompts
Could you expand on...
Can you tell me a little more about......
Can you give me an example of ...
Go on.....
What are your thoughts on.....
What feelings do you have about.....
Please describe.......
To conclude the sorting task, I'd like you to look back over the picture you have put together in front of you of your experiences. Are you happy that this reflects how you were feeling at this stage of your career and your experiences of burnout.

7. As you look over the picture, can you pick out for me what you think were the key characteristics that represent your experiences of burnout?
8. How would you summarise burnout if you were describing it to someone else based upon your experiences?

Prompts
Could you expand on...
Can you tell me a little more about.......
Can you give me an example of ...
Go on.....
What are your thoughts on.....
What feelings do you have about.....
Please describe.......

Part Two: Inter-relationships between dimensions

Now that we have your picture of burnout, I'd like to explore how the dimensions if you think that the dimensions are inter-related at all, or if they are experienced separately?

9. From your experiences were the dimensions connected to each other at all, or were they separate? Yes/No, Connected/Individual

If dimensions are considered to be connected
10. Can you tell me about how they are connected? (prompt – which dimensions are connected?)
11. How do the dimensions affect one another?
12. Are there any dimensions that are more important than others? (prompt – could you explain this?)
13. What are your thoughts on how the dimensions develop?
14. Can you describe how each dimension affected you in turn?
15. Could you summarise for me how the dimensions develop and are connected to each other?
Prompts
Could you expand on...
Can you tell me a little more about......
Can you give me an example of ...
Go on.....
What are your thoughts on.....
What feelings do you have about.....
Please describe.......

If dimensions are not considered to be connected
16. If the dimensions occur separately, what are your thoughts on how they develop?
17. Can you describe for me how you think each dimension affected you in turn?
18. Are there any dimensions that are more important than others? (prompt – could you explain this?)
19. What are your thoughts on how the dimensions develop?
20. Could you summarise for me how the dimensions develop?

Prompts
Could you expand on...
Can you tell me a little more about......
Can you give me an example of ...
Go on.....
What are your thoughts on.....
What feelings do you have about.....
Please describe.......

Ok now that we have created your picture of burnout and how the dimensions seem are related to each other and develop over time, I’d just like to run through a summary to make sure that I have things accurately recorded.

21. This is a picture of each dimension, you summarised each in turn through the following characteristics.......Does that sound right, is there anything to add in or take out?
22. You summarised your experience of burnout as.......Are you happy that I have recorded that accurately?
23. We discussed how the dimensions might be inter-related and how they develop, you described this as.......Again are you happy with this?
24. Finally just to finish, I am curious as to what you experienced when you decided to leave your sport? (prompt - What were your experiences physically and mentally? How did the characteristics of burnout you described affect you?

25. Were there any long term impacts of your experience of burnout that you believe continued to your departure from the sport?

26. Leading into the time when you decided to leave your sport, can you describe how you were feeling and what led to your decision?

27. Having gone through this interview process and looking at the summary you have created of your experiences, is there anything you would like to change at this stage, or any questions you have for me?

Prompts
Could you expand on...
Can you tell me a little more about......
Can you give me an example of ...
Go on.....
What are your thoughts on.....
What feelings do you have about.....
Please describe.......

Ok well thanks again for your help, I really appreciate it and the time you have given up in helping me.
Appendix 4: Example of athlete interview story board

**Physical and Emotional Exhaustion**

I mean physically I think the biggest thing is the fatigue. You can’t recover as well and you are going into training feeling fatigued.

I think the emotional for me was a lot more about negative emotions. I experienced a lot of frustration, anger, aggression, moodiness.

Also I think you feel a bit isolated at this time. No one really knows what is going on for you, and also you may be don’t let people either.

Physically, yeh it is definitely this fatigue and exhaustion you get. Like I said you just don’t feel yourself. The tank is running on empty and in canoeing you need to have more in the tank for sure.

**Sport Devaluation**

I think the major thing is not wanting to be there. It is pretty strong and the drive you had is just not there. You can’t think of anything worse than training, and the

I just wanted to run away from it at that emotional level, and then you are also angry with everyone, everything it feels. It builds up so it is a bit like a rage.

More than anything, boat run. Like I said feel was massive for me with good feel, I would naturally get good boat run. I was a good technical paddler naturally and that is a major source of your feedback. When I lost the feel I didn’t know what to do.

I just lost it I think

I lost my confidence through losing the feel.

I was underperforming this whole time, well below what I knew I was capable of.

**Reduced Athletic Accomplishment**

More than anything, boat run. Like I said feel was massive for me with good feel, I would naturally get good boat run. I was a good technical paddler naturally and that is a major source of your feedback. When I lost the feel I didn’t know what to do.

I just lost it I think

I lost my confidence through losing the feel.

I was underperforming this whole time, well below what I knew I was capable of.

**Other**

I just lost it I think