The effect of motivation, social support, stress and resilience on the development of burnout symptoms in elite athletes

Blythe Gooden

Edith Cowan University

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The Effect of Motivation, Social Support, Stress and Resilience on the Development of Burnout Symptoms in Elite Athletes

Blythe Gooden

A report submitted in Partial Fulfilment of the Requirements for the Award of Bachelor of Science (Psychology) Honours, Faculty of Computing, Health and Science, Edith Cowan University.

Submitted (May, 2010)

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Acknowledgements

I am heartily thankful to my supervisor, Craig Harms, whose encouragement, guidance and support from the initial to the final level enabled me to develop an understanding of the subject. I am truly grateful to East Fremantle and Swan Districts football clubs for their participation, as if it were not for them this project would have not been possible. To my family and friends who offered me continuous support throughout this time and lastly, I offer my regards and blessings to all of those who supported me in any respect during the completion of the project.

Blythe Gooden
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Determinants of Athlete Burnout: An Investigation and Review

Blythe A. Gooden
Abstract

The purpose of this review was to provide an overall view of some of the identified determinants of burnout when it occurs in elite athletes. A total of 66 published articles were used to develop an understanding of burnout, its contributors and the combined effects of the contributors. An explanation of the psychological concept of burnout is discussed, followed by a discussion of the implications of burnout in athletes. Current literature in the area is reviewed followed by an overview of three of the identified determinants of athletic burnout: 1. Stress based on theoretic concepts developed by Lazarus and Folkman (1984) and Smith’s (1980) cognitive-affective model; 2. Motivational factors focusing on self-determination theory as outlined by Ryan and Deci (2002); and, 3. Social support factors and the differences in team and individual sports. Resilience is discussed as a gap in the athletic burnout literature, and a possible direction for future research.

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Supervisor: Mr. Craig Harms
Submitted: May 2010
At a basic level burnout is a state where “...individuals become fed up with what they are doing” and discontinue the pursuit of a task (Fender, 1989, p. 63). Burnout is a psychological syndrome that was developed by psychoanalyst Herbert Freudenberger in the 1970’s who suggested that burnout was a state of fatigue or frustration brought about by a devotion to a cause, way of life or relationship that fails to produce the expected outcome (Fender, 1989). Burnout has been identified as a concern in the workplace, organisational settings and recently a major concern for elite sportspeople (Cresswell & Eklund, 2005; Van den Broeck, Vansteenkiste, De Witte & Lens, 2008).

It is expected that at some point of an athlete’s career they will experience some level of burnout. Appleton, Hill and Hill (2009) claimed that between 1% and 7% of elite athletes would experience high levels of burnout during their career, and up to 15% would suffer from moderate symptoms of burnout. A number of issues have been identified to contribute to the onset of burnout symptoms in athletes. Life stresses such as money difficulties, a lack of adequate social support systems and shifts in motivation (Cresswell & Eklund, 2005) as well as intense physical demands and low perceptions of self worth (Appleton et al., 2009) have all been identified to contribute to burnout in athletes.

The importance of studying burnout stems from its impact on workplace and organisational issues such as absenteeism and ill health of employees (Goodger, Gorely, Lavallee & Harwood, 2007). Burnout can have debilitating effects on an individual and presents with both physical and psychological symptoms (Waldron, 2005). Physical symptoms can include physical exhaustion, sleep disturbances, decreased body weight and low energy. Psychological symptoms of burnout range from concentration problems, lack of caring, mood changes, depression and anxiety (Waldron, 2005).
This paper examines Maslach and Jackson’s (1981) model of burnout, organisational and athletic burnout, as well as reviews the theoretical explanations of burnout, identifying Smith’s (1986) model of stress, Cresswell and Eklund’s motivational influences and Coakley’s (1992) social support framework as key contributors to burnout in athletes. The review also identifies resilience as a co-contributor of burnout in athletes and investigate the Resiliency Model developed by Richardson, Neiger, Jensen and Kumfer (1990).

Definitions of burnout

Research surrounding burnout in athletes was initially developed from the definitions of burnout in organisational and workplace settings. In the years following Freudenberger’s identification of burnout, a more developed definition was established. Throughout the 1970s Maslach and her colleague Jackson studied human emotion and specifically burnout, and identified three main components of the disorder.

According to the Maslach and Jackson (1981) model of burnout emotional exhaustion was identified as the first key aspect needed for the development of burnout. As individuals’ emotional resources are depleted the individual feels that they can no longer give themselves fully to the task at a psychological level. It was also suggested that this may explain why many individuals who suffer burnout are employed in “people-work” such as nurses, teachers and social workers (Maslach & Jackson, 1981; Maslach & Jackson, 1985). The close interactions between staff and clients associated with these professions centring on the clients’ psychological problems can be emotionally draining after years of employment, and may increase the risk for burnout (Maslach & Jackson, 1981).

The second component of Maslach and Jackson’s (1981) model of burnout is that of depersonalisation, which is suggested to emerge gradually as the individual attempts to withdraw themselves from the emotional strain they are experiencing in dealing with the psychological issues of their clients (Healy & Bramble, 2003). This depersonalisation often
reveals itself in the individual as callousness, cynicism and an often dehumanised perception of others and their troubles. It is for this reason that Maslach and Jackson (1981, 1985) also believed there was a strong link between depersonalisation as a response to emotional exhaustion.

The third and final component of Maslach and Jackson's (1981) model of burnout is the development of a reduced sense of accomplishment, which is to evaluate oneself in a negative manner, particularly in regards to work. This manifests itself as a perceived decline in competence and is often accompanied by a feeling of lack of progress. Individuals feel unhappy with themselves and dissatisfied with their accomplishments (Healy & Bramble, 2003; Maslach & Jackson, 1981).

**Burnout in the workplace**

Past research in burnout has had a strong theoretical basis in organisational and workplace settings. Prior to the 1990s burnout was mainly associated with professions in healthcare, such as nurses, teachers, health professionals and volunteer counsellors – what Maslach and Jackson referred to as “people work” (Evers, Brouwers & Tomic, 2002; Grylls & Spittle, 2008; Lai & Wiggins, 2003; Maslach & Jackson, 1981). Organisational psychologists have been especially interested in reducing burnout thus optimising performance, functioning and positive work experiences in their employees (Van den Broeck et al, 2008).

Most research on burnout has focused on people in helping professions, as it is thought that the high intensity, demanding, person-to-person interactions of these occupations can produce high stress and cause individuals to be especially prone to burnout (Hellesy, Gronhaug & Kvitastein, 2000; Koustelios, 2001). Based on this early research in teachers and coaches in the sporting context burnout has become particularly prominent. In 1995 an American study by Bendini, Williams and Thompson investigated 400 therapeutic recreation
specialists on the existence of role stress and its relationship to burnout. Role stress refers to
the stress experienced by an individual because of their job (i.e. their role) (Khetarpal &
Kochar, 2006). Using the Maslach Burnout Inventory the results indicated that the
participants experienced moderate burnout and there was a positive relationship between
burnout and role stress. In the same year a study by Fejgin, Ephraty and Ben-Sira researched
188 male and female Israeli physical education teachers in Tel-Aviv. They found that,
although the overall level of burnout was lower than in Bendini, Williams and Thompson’s
study, Fejgin et al were also able to identify role stress as well as role conflict, where a person
is expected to perform in two or more conflicting roles, and social isolation – forming few
personal ties (Reber & Reber, 2001) as key contributors to burnout in physical education
teachers.

Koustelios (2001) confirmed that higher levels of work demand are most critical in
predicting burnout for individuals involved in sporting activities. In this study, which
consisted of 116 sport centre employees, it was found that those who had worked shift work
repeatedly for the past 11-20 years reported higher levels of depersonalisation – one of the
three components of burnout. Later, Van den Broeck et al. (2008) concluded that the
satisfaction of psychological needs (i.e., understanding, compassion, trust) accounted for the
relationship between job resources and emotional exhaustion, another component of burnout.

These results support previous research by Cordes and Dougherty (1993) who stated that the
few research studies involving employees in the sporting context on role conflict have
consistently found significant positive relationships between role conflict and the burnout
dimensions, and most often with emotional exhaustion.

Martin, Kelley and Eklund (1999) sought to investigate the effects of stress on
burnout in athletic school directors. From their study of 294 male school directors they
reported that stress predictors, such as social support, gender and experience had a direct
effect on burnout as well as an indirect influence through stress. It was also reported that athletic directors reported greater degrees of emotional exhaustion over depersonalisation and sense of accomplishment. However, following completion of the research Martin, Kelley and Eklund (1999) stated that more research was needed to be conducted on stress and burnout with other sporting populations (i.e. athletes) as well as women.

**Burnout in athletes**

For at least the last two decades research has moved beyond workplace and organisational settings and has looked into the sporting context. Many athletes dedicate their lives to their sport and athletes note the importance of hard work in order to improve performance. The combination of overtraining during certain times of the training cycle, lack of adequate recovery and increased competitive stress increases the risks for burnout (Gustafsson, Kentta, Hassmen & Lundqvist, 2007).

Interest in sport burnout research mainly focused on coaches until 1990 when Cohn (1990) and Silva (1990) submitted the first research on athletes (Goodger et al., 2007). Cohn (1990) conducted an exploratory investigation into the determinants of stress reported by high school golfers in order to ascertain the causes of athlete burnout in golf. He collected data from 10 participants and identified a number of competitive sources of stress for golfers. The most frequently cited reasons for burnout in the participants were excessive practice, lack of enjoyment and excessive pressure from self and others. At the same time Silva (1990) was looking into how training stress has an impact on performance. He identified that both positive (performance gains) and negative adaptations to stress exist. Negative adaptations can lead to staleness (i.e., lethargy and lack of interest), overtraining (training exceeds recovery) and burnout (Silva, 1990).

In a systematic review of literature on burnout by Goodger, Gorely, Lavallee and Harwood (2007) it was found that 46% of total burnout literature focused on athletes. Of the
remaining total the literature primarily focused on coaches, athletic directors, trainers, officials and employees. Considering that many individuals involved in elite sport have chosen this to be their career path it seems important that researchers embrace the workplace focus of burnout and investigate the development of these symptoms in athletes.

The three components of burnout outlined in Maslach and Jackson’s (1981) model of burnout can be clearly represented in athletes in several ways. Emotional exhaustion can be associated with the strain of intense training and competition. A reduced sense of accomplishment comes about when athletes are unable to perform their skills to the best of their ability and feel that they are not performing to expectations. Depersonalisation has not been identified as a dimension in athletes. It has been suggested that sport devaluation is a more appropriate dimension for the sports setting, including resentment towards performance and their chosen sport (Goodger, et al., 2007; Raedeke & Smith, 2004; Raedeke, Lunney & Venables, 2002).

Since Cohn (1990) and Silva (1990) focused on research in athletes, a number of studies have investigated some of the possible determinants of burnout in athletes. Stress has become a standout determinant of burnout. However other studies have identified motivation (Pelletier, Fortier, Vallerand, Tuson, Briere & Blais, 1995) and social support (Kruger, Bernstein & Botman, 2001). Incorporated into the motivational aspect of athletic burnout, is the associated issue of perfectionism.

Perfectionism is considered to be a key characteristic of elite athletes and has the potential to produce maladaptive outcomes (Lemyre, Hall & Roberts, 2008). In its positive form perfectionism can encourage the relentless pursuit of high performance, and with it comes high self esteem and self-satisfaction (Hall, 2006). However, it is also the case that athletes who are characterised by perfectionism may also exhibit a vulnerability to failure that can cause psychological distress (Lemyre et al., 2008). Thus, perfectionism can have
debilitating effects on an elite athlete. The link between perfectionism and burnout has been investigated. Gould (1996) found that athletes who were experiencing burnout were higher on personality dimensions reflecting perfectionism. However, since then results have been mixed with Chen, Kee and Tsai (2009) reporting that neither adaptive nor maladaptive perfectionism predicted burnout in adolescent athletes. Most recently, Hill, Hall, Appleton and Murray (2010) also found similar results to Chen, Kee and Tsai reporting that the relationship between burnout and perfectionism is still unclear due to its association with multiple motives. For this reason the focus of this review remains on motivation and perfectionism is not considered any further.

Explanations for burnout in athletes

Stress

Stress is a normal part of our daily lives and each one of us reacts to stress differently. Not all stress is bad for us and we need a certain degree of stress in our lives to function and achieve things (Silva, 1990). However, excessive amounts of stress over a long period of time results in illness or decreased well being. This excessive negative stress can lead to staleness and burnout (Reeve, 2005; Silva, 1990). Lazarus and Folkman (1984) suggested that stress could be thought of as resulting from an imbalance between demands and resources, or when pressure exceeds one’s ability to cope. Lazarus and Folkman’s interpretation of stress focuses on the transaction between people and their external environment (known as the Transactional Model).

Lazarus and Folkman (1984) view psychological stress as a relationship between the person and the environment, which is appraised as potentially endangering ones’ well-being. Two critical processes mediate this person-environment relationship: (a) the cognitive appraisal, which is an evaluative process that determines why and to what extent a particular transaction is stressful; and (b) coping, the process through which the individual manages the
demands of the person-environment relationship and ensuing emotions generated from the situation.

A stress induced model of burnout is central to the research surrounding determinants of burnout and when work began in the 1980's on athletic burnout, Smith’s (1986) cognitive-affective model was the only model published at this time (Goodger et al., 2007; Smith, 1986). Smith built upon Lazarus and Folkman’s (1984) Transactional Model of stress and represented stress induced burnout as a four component model that outlines situational demands, cognitive appraisal, physiological responses and coping behaviours to determine how an individual will respond to stress.

According to Smith (1986) the first component involves the interactions between environmental demands and personal and environmental resources and stress is caused when there is an imbalance between demands and resources. In sport, this may occur when demands, such as competition or desired goals exceed the resources available, commonly referred to as overload; or when resources greatly exceed demands, such as when an individual is not feeling challenged enough to use the resources available creating boredom.

Cognitive appraisal processes are the second component in Smith’s (1986) model and play a central role as to how an individual will assign meanings to the consequences of demands not being met, and decides how the individual will respond to stressors. An athlete who has a strong self-belief system will attach different meanings to an outcome than an athlete with a low self-belief system. The individual with a low self belief system will be more likely to attach irrational beliefs on the outcome and have an inappropriate stress reaction, such as tension, anxiety, anger and depression (Ellis, 1962; Smith, 1986). Psychological arousal occurs when cognitive appraisals indicate the threat of harm or danger and mobilises resources to deal with the situation. The intensity of the arousal being processed determines the process of appraisal and reappraisal in the individual.
The final component of Smith’s (1986) model consists of the individuals’ behaviour that is applied to deal with the stress or situation. This involves dealing with the task-oriented (positive and goal achieving behaviour), social and other coping behaviours that are affected by the situation. According to Smith, all the components are influenced also by personality and motivational factors and determine how an individual will seek out certain situations and respond emotionally and behaviourally with personality factors being most prevalent during the cognitive appraisal stage. Within this model framework, burnout represents the manifestations or consequences of the situational, cognitive, physiological and behavioural components of stress.

Stress has been consistently linked with burnout in sports (i.e., Dale & Weinberg, 1990; Kelley, 1990, 1994; Martin, Kelley & Eklund, 1999), and has been associated with all three components of burnout (i.e., emotional exhaustion, depersonalisation and personal accomplishment). Based on Smith’s (1986) stress model Gould (1996) conducted a four stage study of burnout in youth tennis players and reported that initial investment in sport was a result of high motivation and successful experiences. He suggested that it was in fact the onset of burnout that caused stress, and therefore concluded that burnout developed when there was shift in motivation from a desire to succeed to physical (losing the ability to do certain things) and psychological (defensive detachment) disengagement. Based on these findings, Gould (1996) felt that stress could not be solely attributed to causing burnout in athletes. In the years following Gould’s research, researchers adapted the view point that stress could not solely cause burnout and began to research the topic further.

Dale and Weinberg (1990) identified various psychological stressors, as well as the stress of training, that may relate to burnout in athletes such as fear of failure, frustration, high expectations, performance pressure and anxiety. Other stressors that have been identified include personal stress, social support systems and interpersonal conflicts (Martin,
Kelley & Eklund, 1999; Taylor, Daniel, Leith & Burke, 1990). Grylls and Spittle (2008) examined the relationship between sports injuries and burnout with a sample of international Australian athletes and found a small but statistically significant positive correlation between the two variables. This is relevant more so when coupled with Andersen and Williams' model of sports injury (1988) which indicates that stress is a major contributor to injury and injury may also initiate stress. This model suggested an athlete who tends to view situations as threatening (high trait anxiety), who has a history of life stressors (major life-changing events and daily hassles) and has poor coping resources (lacks social support, etc.) is considered to be more likely to experience a negative stress response and consequently is more prone to athletic injury.

Schmidt and Stein (1991) argued that previous models of stress overlooked an important aspect of social exchange theory and therefore cannot account for continued rates of burnout. Social exchange theory, which puts forward that all human relationships can be explained by the use of a cost-benefit analysis, explains how an individual feels about a relationship, based on the cost-reward perceptions of the relationship (Thibaut & Kelley, 1959). Schmidt and Stein (1991) used sport enjoyment and commitment as determinants of stress and burnout, a perspective that has been also adopted by Raedeke (1997). Scanlan, Carpenter, Schmidt, Simons and Keeler's (1993) Sport Commitment Model proposes that sport commitment is determined by sport enjoyment, involvement alternatives, personal investments, social constraints, and involvement opportunities. Greater sport enjoyment, personal investments, social constraints, involvement opportunities, and less attractive involvement alternatives are predicted to lead to higher levels of sport commitment.

These studies produce evidence that there is not a single model of stress that is linked to burnout, but other factors are at play in determining whether an athlete will suffer burnout.
General coping behaviours (resilience), social support systems and motivation have also been identified as co-contributors to burnout, and these are discussed below.

**Motivation**

More recently theoretical explanations for the occurrence of athlete burnout have been based on motivation, and more specifically self determination theory (SDT; Ryan & Deci, 2000). SDT has allowed researchers to identify distinct types of motivation, each of which has consequences for learning, well-being and personal experience (Ryan & Deci, 2000). According to self determination theory several types of motivation are present in individuals; amotivation, extrinsic motivation and intrinsic motivation and can be organised along a continuum of self determination (Reeve, 2005).

Amotivation is a state where a person is neither extrinsically nor intrinsically motivated – literally, this person lacks motivation (Cresswell & Eklund, 2005; Reeve, 2005). Intrinsic motivation reflects an internal source for motivation. This is the full endorsement of self determination and surrounds the psychological needs that generate a motivation, for example participation out of interest and enjoyment (Hagger & Chatzisarantis, 2008; Reeve, 2005). Motivations that involve external rewards, avoiding punishment and money or status are characteristic of external motivation (Hagger & Chatzisarantis, 2008). External motivation is part of its own continuum within self determination with the possibility for individuals to be motivated externally through incentives at one end of the scale and externally motivated because it reflects the individuals’ values at the opposite end (Hagger & Chatzisarantis, 2008; Reeve, 2005). The self-determination continuum is most simply described by Figure 1. It can be seen that the level of self-determined motivation an individual possesses increases with intrinsic motivation. Ryan and Deci (2002) have provided definitions for the four types of external motivation. External regulation occurs when individuals are only motivated by external contingencies (i.e. the threat of punishment or a
reward). Introjected regulation refers to the introjection of demands that provide pressure (i.e. to avoid feelings of guilt for not participating). Identified regulation occurs when the individual identifies with opportunities that are associated with their own goals, but are not intrinsically motivated (i.e. “I will participate because I want to achieve the goals I have set for myself”). Finally, integrated regulation occurs when there is no external influence involved and participation is sought after due to enjoyment or curiosity. In competitive sports, burnout is believed to follow shifts on the self determination continuum towards extrinsic motives and amotivation (Lemyre, Treasure & Roberts, 2006).

Figure 1
Self-determination Continuum

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<th>Amotivation</th>
<th>Extrinsic Motivation</th>
<th>Intrinsic Motivation</th>
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<tbody>
<tr>
<td>No regulation</td>
<td>External regulation</td>
<td>Introjected regulation</td>
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Self determination

Research on self determined motivation has incorporated the use of the Sport Motivation Scale (Pelletier, et al., 1995) in studies and in doing so has created what is known as the Sport Determination Index (SDI) and the ability to attribute more self determined forms of motivation and associate them with more positive responses on related items of the scale.

One such study is that by Cresswell and Eklund (2005) in the examination of New Zealand professional rugby players in an extension of their 2005 study of amateur rugby players. They investigated the self determined motivational types of professional rugby players on characteristics of burnout, and found burnout was positively associated with amotivation and negatively associated with intrinsic motivation. However, no significant
relationship was found between burnout and external motivation, a finding which was unexpected as the presence of high external motivations which are not being satisfied may increase the likelihood of burnout. Cresswell and Eklund attributed this finding to not knowing if the increase in external motivation was due to the financial rewards made available to professional players or other outside influences.

Interestingly, Lemyre, Treasure and Roberts (2006) found similar results when investigating 44 male and female elite swimmers on motivation shifts and burnout. Swimmers were to self report mood states each week and self motivation indexes were recorded. The results indicated that shifts in motivation along the continuum were reliable predictors of all three burnout dimensions, and additionally swimmers who self reported a negative mood state were more at risk of burnout symptoms (Lemyre et al., 2006). However, researchers did not include the whole range of motivation regulation distinctions on the self-determination continuum, excluding introjected and integrated regulation and therefore may not have produced reliable results as they did not allow for motivations such as goals and personal feelings towards participation.

Lonsdale, Hodge and Rose (2009) found similar results again to the two previous studies using the 24-item Behavioural Regulation in Sport Questionnaire which also measures self-determination variables. This questionnaire contained subscales designed to measure all components of motivation regulation as opposed to Lemyre et al.'s (2006) study. Lonsdale et al.'s cross sectional analysis found relationships between athlete burnout and behavioural regulations, with less self determined motives showing more positive associations and vice versa. Amotivation was positively correlated with all aspects of burnout, whilst internal motivation was negatively associated with burnout scores. They also found significant amounts of variance in athlete burnout symptoms; however they attributed
this variance to basic needs of competence and autonomy as well as self determined motivation.

A study by Lemyre, Roberts and Stray-Gundersen (2007) found results in conflict with those of Lonsdale et al. (2009) and Lemyre et al. (2006). In their research on 141 male and female, junior and senior winter sport athletes they found that self-determined motivation was not significantly correlated with burnout in these athletes. They attributed these findings to the component of overtraining which indicates that although self determined motivation plays a significant part in burnout, it cannot be held solely responsible.

*Social Environment*

Social support as been seen as one of the best predictors towards a reduction in burnout and stress for workers (Hendrix, Cantrell & Steel, 1988). In the work context, the data suggests overall that the perceived quality of workplace social support is associated with burnout and other work related variables (Baruch-Feldman, Brondolo, Ben-Dayan & Schwartz, 2002). Social support has been found to have an effect on stress and burnout among human service workers. Additionally the literature reveals that stress is likely to increase burnout whereas social support has the opposite effect (Hendrix et al., 1988). Therefore, with the rise in research on burnout in the sporting context it is reasonable that researchers have identified social support as an effect of early signs of burnout in athletes (Cresswell & Eklund, 2004).

The social support framework for burnout in sport was first explored by Coakley (1992) who extended on the chronic stress model developed by Smith (1980). Whilst Coakley did not deny that athlete burnout was influenced by stress, he argued that the roots of burnout go far beyond stress, emotional demands, psychological resources and competition (Coakley, 1992). In this framework, greater emphasis was placed on the social context of burnout, in that burnout was less of a personal failure of the athlete and more of a social organisation
problem within sport itself (Coakley, 1992; Kjormo & Halvari, 2002). He found that, due to the commitments of competing in elite sport, athletes were finding that they were unable to make other commitments outside of sport, and in turn were not able to create identities not related to sport and being an athlete, and therefore were at greater risk of burnout. Coakley (1992) attributed this to the idea that these individuals had constructed their identity through being an athlete and had begun to realise that being competent at one sport did not make them competent people. They began to have feelings that the efforts being put into their sport were not being rewarded by positive outcome and started to question the cost-reward balance of sport. Athletes also began to develop burnout symptoms such as emotional exhaustion.

Coakley (1992) also hypothesised that athletes involved in team sports would be less likely to develop burnout than athletes in individual sports due to the constant support of teammates. He felt that teammates may serve as allies in creating new experiences and also create relationships and peer dynamics that are not available in individual sports (Coakley, 1992). A number of studies have investigated the comparison of burnout symptoms between athletes involved in individual compared to team sports. Gustafsson et al., (2007) found that when comparing the two, greater numbers of athletes with high levels of burnout were found in team sports, which based on team relationships and peer dynamics, was unexpected. However, this was only evident in males; females demonstrated lower levels of burnout suggesting possible gender differences in burnout.

Rees and Hardy (2000) found conflicting evidence about the role of social support as a determinant for athlete burnout. They interviewed 10 high level sports performers of individual and team sports regarding their experiences of social support. Whilst overall results suggest a positive role of social support, not all responses were positive. One participant claimed that he felt his parents, whilst supportive, served as a distraction and a hindrance rather than a positive social support system. The same participant suggested that
his teammates were not supportive and felt that he could not talk about concerns regarding sport as he felt they would perceive this as him showing weakness.

Gould, Tuffey, Udry and Loehr (1996) interviewed 10 junior tennis players on physical, mental and emotional reasons for burning out. The social/interpersonal dimension emerged with three distinct themes - dissatisfaction with their social life, negative parental influence and dissatisfaction with those involved. They reported that several individuals identified a lack of social life as a dominant reason for burning out. Participants also recorded feelings of isolation, feeling alone and having no one to relate to as salient factors in their experiences of burnout.

Coakley’s (1992) hypothesis that team sports athletes may be of less risk to burnout than individual sport athletes due to social support is supported by findings in both Kjormo and Halvari (2002) and Kruger, Bernstein and Botman’s (2002) studies. Both studies reported that athletes report a lack of time to be with significant others (friends, partner, relatives etc.) as a stressor, and reported higher levels of burnout. They also reported that friendships between members of the same team and having fun were both positively related to personal accomplishment and inversely related to emotional exhaustion (Kjormo & Halvari, 2002; Kruger, Bernstein & Botman, 2002).

In a later study, Rees and Hardy (2002) examined the stress buffering effects of social support on high level tennis players. Their regression analysis found a positive correlation of social support with performance, and also stress buffering effects of social support. With Smith’s (1980) stress model of burnout in mind it could be reasoned from these results that if social support buffers athletes from stress, it may also in turn buffer athletes from burnout.

These results mostly support Coakley’s (1992) hypothesis that individual sport athletes are at greater risk of burnout due to decreased social support systems. However these results would need to be compared with athletes in team sports, for example doubles tennis
players, before more definitive statements could be made, as in some circumstances, teammates can prove to be a hindrance rather than a solid support system.

Other factors that might impact on the development of burnout

In looking at the influences of stress, motivation and social support effects of burnout in athletes, it can be seen that extensive research has been done to identify contributors of burnout. Surprisingly very little research has been done investigating resilience and burnout in athletes, and has remained only in organisational settings (Galli & Vealey, 2008; Leipold & Greve, 2009; Mummery, Schofield & Perry, 2004; Ong, Bergeman, Bisconti & Wallace, 2006; Yi, Smith & Vitaliano, 2005).

Resilience refers to ones’ ability to bounce back and respond positively despite adversity (Leipold & Greve, 2009) and it is associated with resistance to, and recovery from stressful life events (Ong et al., 2006). The Resiliency Model adapted by Richardson et al. (1990) describes that once an individual is subjected to stressors or adverse events disruption of their comfort zone will occur. If the individual does not possess sufficient protective qualities such as self-esteem, self-efficacy and problem solving ability, they will not be buffered from the adverse event (Galli & Vealey, 2008). Following this disruption the individual must re-establish their comfort zone and does so either dysfunctionally, maladaptively or resiliently (Richardson et al., 1990). The most desirable form of reestablishment is through resilience. In this process not only do individuals make it through the adversity, but gain additional protective factors also; for example they may emerge with a greater work ethic or a greater appreciation of the sport.

Resilience has a strong theoretical background based on stress and social support systems (Galli & Vealey, 2008; Leipold & Greve, 2009; Mummery, Schofield & Perry, 2004; Yi, Smith & Vitaliano, 2005). Resilience is treated as the possession of coping processes
when people are under a lot of stress (Leipold & Greve, 2009) and is based on the successful adaptation to stress.

A study in 1990 by Smith, Smoll and Ptacek investigated how different variables interact to affect resilience. They hypothesised that multiple variables must interact to maximise resilience. By studying teenage high school athletes they found that social support and psychological resilience operate together to influence stress, and subsequent injury of athletes (Smith et al., 1990). Athletes who demonstrated low resilience exhibited a higher stress-injury relationship. Based on those results, if resilience has a direct influence on stress then it could be implied that the ability for athletes to be resilient will indirectly affect their susceptibility to burnout through stress.

However a study by Mummery, Schofield and Perry (2004) contradicted these previous findings. This study looked at Australian National level swimmers \(N = 272\) who were identified as resilient or non-resilient performers. Resilient performers were defined by having an initial failure in performance followed by a subsequent significant result, and non-resilient performers were those who had an initial failure followed by a subsequent failure. The results indicated that performers in the resilient category had lower self perceptions of social support from significant others than the non-resilient performers (Mummery et al., 2004).

The majority of these studies have indicated a relationship between resilience, social support and stress. Based on the previous research on social support, stress and burnout it is fair to hypothesise that resilience has an indirect effect on burnout in athletes through stress and social support.

**Summary**

Maslach and Jackson (1981) identify three components essential to the construct of burnout; (a) emotional exhaustion, (b) reduced sense of accomplishment, and (c)
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depersonalisation. Burnout has been identified as a concern in the workplace, organisational settings and recently, a major concern for elite sportspeople. It is expected that at some stage in their careers an athlete will experience some degree of burnout. Life stresses such as financial difficulties, lack of social support and shifts in motivation have all been attributed as contributors to burnout in athletes.

Based on the articles provided in this literature review it is evident that much research has gone into the study of burnout in athletes in recent times. Stress has been an influential determinant of athlete burnout, with a model by Smith (1980) providing the framework which has been the basis of a great deal of early research. This model extends on work by Lazarus and Folkman (1984) who suggest that stress is an imbalance between demands and resources, or when pressure exceeds one’s ability to cope. Stress has been consistently linked with burnout in sports and has been associated with all components of burnout (i.e. Dale & Weinberg, 1990; Martin, Kelley & Eklund, 1999).

Motivation has also been pivotal in determining which athletes will be more inclined to suffer burnout, with self-determination theory (Ryan & Deci, 2000) placing athletes on a continuum of motivation in order to assess their susceptibility to burnout. Burnout has been found to be associated with amotivation and intrinsic motivation, and that athletes’ who exhibit less self-determined motives for participation show higher degrees of burnout.

Social support has been identified as an early effect of signs of burnout and has been explored by researchers in the sporting context (Cresswell & Eklund, 2004). However research has since suggested that not all roles of social support are beneficial. Social support in teams has been shown to be a hindrance to performance with issues such as non-supportive teammates and inter team competitiveness being reported (Rees & Hardy, 2000).

Further research on determinants of athlete burnout is required as it is evident that there is no one factor that causes athletes to burn out. Research looking into the effects of
resilience on burnout may prove to beneficial, with resilience showing roots in social support and stress (Galli & Vealey, 2008). Research is also required on the comparison of athletes involved in team sports and individual sports to further the research compiled by Rees and Hardy (2000) in relation to social support and burnout.
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Hall, H.K. (2006). Perfectionism: A hallmark quality of world class performers, or a


Guidelines for Contributions by Authors
The Effect of Motivation, Social Support, Stress and Resilience on the Development of
Burnout Symptoms in Elite Athletes

Blythe Gooden
Abstract

The relationship between self-determined motivation, social support, stress and resilience on the development of burnout symptoms in elite athletes was investigated. The participants were 35 male Australian Rules football players from two selected teams in the Western Australian Football League located in Perth. Multiple regression analyses compared the four independent variables with burnout, and on the three determinants of burnout (sense of accomplishment, emotional exhaustion and devaluation). None of which showed any significant relationship with burnout in the athletes. Self-determined motivation, stress and social support showed a small but positive relationship on the development of burnout symptoms in the participants. The hypotheses that stress would have a positive effect on burnout, and resilience and self-determined motivation would have a negative effect on burnout were both supported. However, the hypothesis that social support would have a negative effect on burnout was not supported. Possible explanations of the results and future directions are discussed.
The Effect of Motivation, Social Support, Stress and Resilience on the Development of Burnout Symptoms in Elite Athletes

Burnout is defined as “a psychological syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment” (Maslach & Jackson, 1984, p.134) with the three components having detrimental effects on the individual. At a basic level, burnout is a state where individuals become tired with what they are doing, and give up (Fender, 1989). The term ‘burnout’ was developed by psychoanalyst Herbert Freudenberger in 1974, and encompasses the state of fatigue or frustration brought about by a devotion to a cause, way of life or relationship that fails to produce the expected outcome (Fender, 1989). Over time, the more developed definition was established and burnout is now suggested to develop through complex interactions of the environment and individual (Fender, 1989; Maslach & Jackson, 1984; Van den Broeck, Vansteenkiste, DeWitte & Lens, 2008). Burnout usually develops gradually and therefore may remain unnoticed for a long period of time by those affected (Gustafsson, Kentta, Hassmen & Lundqvist, 2007).

The topic under investigation in this report is that of burnout symptoms in elite athletes. Specifically, the purpose of this study is to investigate the impact of self-determined motivation, self-perceived stress, self-perceived social support, and resilience and their effects on the development of burnout symptoms in athletes undergoing hard periods of training, such as Australian Rules footballers in preseason training.

According to the Maslach and Jackson (1981) model of burnout, the first key aspect of burnout is an increase in feelings of emotional exhaustion. As individuals’ emotional resources are depleted they feel that they can no longer give themselves fully to their chosen task at a psychological level. Secondly, the individual begins to feel detached from others and a sense of depersonalisation occurs. Individuals then develop a lack of interest and a ‘don’t care’ attitude resulting in feelings of resentment to their task, whether it is their job or sport
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(Goodger, Gorely, Lavallee & Harwood, 2007). In conjunction with both of these symptoms, the individual also starts to doubt their competence on the task, as a result, develops feelings of a reduced sense of achievement (Martin, Kelly & Eklund, 1999).

Symptoms of burnout vary from person to person, however the most common symptoms include fatigue, depression and irritability. These are usually accompanied by headaches, sleeping difficulties, an inability to hold feelings in and feelings of helplessness (Fender, 1989). Whilst burnout can affect anyone, individuals most prone to developing symptoms of burnout are the overachievers, the successful worker as well as those who work too long, too intensely, and are highly dedicated (Fender, 1989); all the qualities that an elite athlete would possess.

Early research in burnout focused on workplace and organisational settings, however for at least the last two decades research has moved beyond these settings and researchers have started investigating burnout in the sporting context. Many athletes dedicate their lives to their sport and note the importance of hard work in order to improve performance. The combination of increased training, lack of adequate recovery and increased competitive stress increases the risks for burnout (Gustafsson et al., 2007). However the people-work nature of burnout provides an explanation of why the majority of research on burnout in sport has focused on coaches and administrators rather than the athletes themselves (Kentta, 2001).

In a systematic review of literature on burnout by Goodger, Gorely, Lavallee and Harwood (2007) it was found that 46% of total burnout literature focused on athletes. Of the remaining total the literature primarily focused on coaches, athletic directors, trainers, officials and employees. Martin, Kelley and Eklund (1999) sought to investigate the effects of stress on burnout in athletic school directors. From their study of 294 male school directors they reported that stress predictors, such as social support, gender and experience had a direct effect on burnout as well as an indirect effect through stress. It was also reported that athletic
directors reported greater degrees of emotional exhaustion compared with depersonalisation and sense of accomplishment.

Considering that many individuals involved in elite sport have chosen this to be their career path it seems important that researchers embrace the workplace focus of burnout and investigate the development of these symptoms in athletes. The three components of burnout from Maslach and Jackson’s (1981) model of burnout can be clearly represented in athletes in the following ways. Emotional exhaustion can be associated with the strain of intense training and competition. A reduced sense of accomplishment may come about when athletes are unable to perform their skills to the best of their ability and feel that they are not performing to expectations. Depersonalisation has not been identified as a dimension in athletes, however it is suggested that devaluation of sport is more appropriate in this setting (Goodger, et al., 2007). Sport devaluation focuses on performance as a whole rather than relationships within the sporting context, and includes resentment towards performance and their chosen sport (Raedeke & Smith, 2004; Raedeke, Lunney & Venables, 2002). Sport devaluation was used as a burnout component in this study, and can replace depersonalisation as a component of burnout.

Since the 1990’s a number of studies have investigated some of the possible determinants of burnout in athletes. Stress has become a standout determinant of burnout (Silva, 1990; Smith, 1980). However, other studies have identified motivation (Pelletier, Fortier, Vallerand, Tuson, Briere & Blais, 1995), and social support (Kruger, Bernstein & Botman, 2001) to be strong determinants of burnout in athletes. In addition, the implications of other research (Mummery, Schofield & Perry, 2004) indicate that resilience may play a role in explaining the development of burnout in athletes.

**Stress**
Lazarus and Folkman (1984) view psychological stress as a relationship between the person and the environment, which is appraised as potentially endangering one's well-being. Two critical processes mediate this person-environment relationship: (a) the cognitive appraisal, which is an evaluative process that determines why and to what extent a particular transaction is stressful; and (b) coping, the process through which the individual manages the demands of the person-environment relationship and ensuing emotions generated from the situation.

A stress induced model of burnout is central to the research surrounding determinants of burnout and when work began in the 1980s Smith's (1980) cognitive-affective model was the only model published at this time (Goodget et al., 2007; Smith, 1986). Smith's representation of stress induced burnout is a four component model that outlines situational demands, cognitive appraisal, physiological responses and coping behaviours to determine how an individual will respond to stress (Smith, 1986). Stress has been consistently linked with burnout in sports (Dale & Weinberg, 1990; Kelley, 1994) and has been associated with all three components of burnout (i.e. emotional exhaustion, depersonalisation and personal accomplishment (Martin, Kelley & Eklund, 1999).

Based on Smith's (1986) stress model Gould (1996) conducted a four stage study of burnout in youth tennis players and reported that initial investment in sport was a result of high motivation and successful experiences. He suggested that it was in fact the onset of burnout that caused stress, and therefore concluded that burnout developed when there was shift in motivation from a desire to succeed to physical and psychological disengagement. Based on these findings Gould (1996) felt that stress could not be solely attributed to causing burnout in athletes. In the years following this work researchers adapted the viewpoint that stress could not solely cause burnout and began to research the topic further.
Grylls and Spittle (2008) examined the relationship between sports injuries and burnout with a sample of international Australian athletes and found a small but statistically significant positive correlation between the two. This is relevant more so when coupled with Andersen and Williams' model of sports injury (1988) which indicates that stress is a major contributor to injury and injury may also initiate stress. This model suggested an athlete who tends to view situations as threatening (high trait anxiety), who has a history of life stressors (major life-changing events and daily hassles) and has poor coping resources (lacks social support) is considered to be more likely to experience a negative stress response and consequently is more prone to athletic injury.

**Self-determined Motivation**

More recently theoretical explanations for the occurrence of athlete burnout have been based on motivation, and more specifically self determination theory (SDT; Cresswell & Eklund, 2007). SDT has allowed researchers to identify distinct types of motivation, each of which has consequences for learning, well-being and personal experience (Ryan & Deci, 2000). According to self determination theory three types of motivation are present in individuals; amotivation, extrinsic motivation and intrinsic motivation and can be organised along a continuum of self determination (see Figure 1) (Reeve, 2005).

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**Figure 1**

*Self-determination Continuum*

<table>
<thead>
<tr>
<th>Amotivation</th>
<th>Extrinsic Motivation</th>
<th>Intrinsic Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>No regulation</td>
<td>External regulation</td>
<td>Introjected regulation</td>
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Self determination
Amotivation is a state where a person is neither extrinsically nor intrinsically motivated – literally, the person is without motivation (Cresswell & Eklund, 2005; Reeve, 2005). Intrinsic motivation reflects an internal source for motivation. This is the full endorsement of self determination and surrounds the psychological needs that generate a motivation, for example participation out of interest and enjoyment (Hagger & Chatzisarantis, 2008; Reeve, 2005). Motivations that involve external rewards, avoiding punishment and money or status characterise external motivation (Hagger & Chatzisarantis, 2008).

It can be seen that the level of self-determined motivation an individual possesses increases with intrinsic motivation. Ryan and Deci (2002) have provided definitions for the four types of external motivation. External regulation occurs when individuals are only motivated by external contingencies (i.e. the threat of punishment or a reward). Introjected regulation refers to the introjections of demands that provide pressure (i.e. to avoid feelings of guilt for not participating). Identified regulation occurs when the individual identifies with opportunities that are associated with their own goals, but are not intrinsically motivated (i.e. “I will participate because I want to achieve the goals I have set for myself”). Finally, integrated regulation occurs when there is no external influence involved and participation is sought after due to enjoyment or curiosity. In competitive sports, burnout is believed to follow shifts on the self determination continuum towards extrinsic motives and amotivation (Lemyre, Treasure & Roberts, 2006).

In 1995, Pelletier et al. assessed self determined motivation in sport using the Sport Motivation Scale (SMS), a 28-item measure of sport motivation. In doing so they created what is known as the Sport Determination Index (SDI) and were able to attribute more self determined forms of motivation and associate them with more positive responses on related items (Pelletier et al., 1995). Lemyre, Treasure and Roberts (2006) found similar results when
investigating 44 male and female elite swimmers on motivation shifts and burnout. Swimmers were to self report mood states each week and self motivation indexes were recorded. The results indicated that shifts in motivation along the continuum were reliable predictors of all three burnout dimensions, and additionally swimmers who self reported a negative mood state were more at risk of burnout symptoms (Lemyre et al., 2006).

A study by Lemyre, Roberts and Stray-Gundersen (2007) found results conflicting with those of Lemyre et al. (2006). In their research on 141 male and female, junior and senior winter sport athletes they predicted that athletes who display high self-determined motivation would report lower burnout at the end of the season than those with lower self-determined motivation. Their results showed that self-determined motivation was not significantly correlated with burnout in these athletes. They attributed these findings to the component of overtraining which indicates that although self determined motivation plays a significant part in burnout, it cannot be held solely responsible.

**Social Support**

The social support framework for burnout in sport was first explored by Coakley (1992) who extended on the chronic stress model developed by Smith (1980). Whilst Coakley did not deny that athlete burnout was influenced by stress, he argued that the roots of burnout go far beyond stress, emotional demands, psychological resources and competition (Coakley, 1992). In this framework, more of a social context was placed on burnout, in that burnout was less of a personal failure of the athlete and more of a social organisation problem within sport itself (Coakley, 1992; Kjormo & Halvari, 2002). He found that due to the commitments of competing in elite sport, athletes were finding they were unable to make other commitments outside of sport, and in turn were not able to create identities not related to sport or being an athlete (Coakley, 1992) and were at greater risk of burnout.
Coakley (1992) also hypothesised that athletes involved in team sports may be of less risk to burnout than individual sport athletes due to the social support systems involved in teams. This is supported by both Kjormo and Halvari (2002) and Kruger, Bernstein and Botman (2002). Both studies reported that when athletes report a lack of time to be with significant others as a stressor, there was a positive correlation with burnout (Kjormo & Halvari, 2002; Kruger, Bernstein & Botman, 2002). They also reported that friendships between members of the same team and having fun were both positively related to personal accomplishment and inversely related to emotional exhaustion (Kjormo & Halvari, 2002; Kruger, Bernstein & Botman, 2002).

Rees and Hardy (2004) examined the stress buffering effects of social support on high level tennis players. Their regression analysis found a positive correlation of social support with performance, and also stress buffering effects of social support. With Smith’s (1980) stress model of burnout in mind it could be reasoned from these results that if social support buffers athletes from stress, it may also in turn buffer athletes from burnout.

**Resilience**

Resilience has a strong theoretical background based on stress and social support systems. Resilience is treated as an effective coping mechanism when people are under a lot of stress (Leipold & Greve, 2009) and is based on the successful adaptation to stress. The Resiliency Model adapted by Richardson et al. (1990) describes the process of obtaining resilient qualities as a cycle which involves an individual being within a comfort zone of adaptation to good and bad circumstances. Once an individual is subjected to stressors or adverse events disruption of this comfort zone will occur. If the individual does not possess sufficient protective qualities such as self-esteem, self-efficacy and problem solving ability, they will not be buffered from the adverse event (Galli & Vealey, 2008). Following this disruption the individual must re-establish their comfort zone and does so in an either
dysfunctional, mal-adaptive or resilient way (Richardson et al., 1990). Dysfunctional ways of re-establishing the comfort zone includes dealing with adversity through violence or substance abuse. Mal-adaptive reestablishment involves reintegration with loss – that is the individual will make it through the adversity but will lose important protective factors during the process, for example loss of confidence or motivation. The most desirable form of reestablishment is through resilience. In this process not only do individuals make it through the adversity, but gain additional protective factors also; for example greater work ethic or greater appreciation of the sport (Richardson et al., 1990).

Ong et al. (2006) argued that there are multiple routes to which successful adaptation to stress might occur. Firstly, the ability to maintain positive outcomes in stressful life events, secondly, the ability to recover quickly from environmental stressors and lastly, the resistance and recovery from stressors. Also, an individuals’ coping ability can be based on personality factors such as social support, self esteem and other social factors (Mummery et al., 2004) as well as stress.

Galli and Vealey (2008) also found that there was an important element of social support in athletes who had demonstrated high resilience. After investigating 10 college and professional athletes the support provided by others emerged as a key theme in the level of athletes’ resilience. Athletes described situations including reinforcement, moral support and knowledge as important aspects of social support (Galli & Vealey, 2008). This provides more evidence that resilience has a strong basis in social support and could then in turn affect the susceptibility of athletes to developing burnout.

Based on these previous findings related to determinants of burnout in athletes, the aim of this study was to provide further empirical evidence to test the hypothesis that stress, self-determined motivation, social support and resilience have a direct effect on the degree of burnout symptoms an elite athlete will possess. Multiple regression analyses will be
undertaken for both overall burnout score, as per Lemyre, Roberts and Stray-Gundersen (2007), and also individual burnout components, as originally conceptualised by Maslach and Jackson (1981). The present study tested the following hypotheses:

**Hypothesis 1:** Self-determined motivation, social support and resilience will have a negative effect on burnout symptoms – that is as scores in these variables increase, burnout scores decrease.

**Hypothesis 2:** Stress will have a positive effect on burnout scores, that is, as stress scores increase burnout scores also increase.

**Method**

**Participants**

The participants ranged in age from 16-28 years, with a mean of 19 years ($SD = 2.77$), and all were players at designated Australian Rules football clubs in Perth, Western Australia. Athletes accepted into these clubs are selected at a state level basis, and only those considered by the Western Australian Football League (WAFL) to have the ability to perform at this level are admitted. Questionnaires were given to the players at senior level ($N = 100$) in the clubs. In total 37 questionnaires were returned (37%).

**Materials**

Athletes were provided with the necessary materials in a package format, which they completed at training. Each package contained an information letter including contact details of support services that may have been required following the completion of the package of questionnaires, a cover page where the participants' age, years involved in the sport and highest level of competition was recorded and copies of the questionnaires. A sample of the package is attached (Appendix A).

**Sport Motivation**
The Sport Motivation Scale (SMS) (Pelletier et al., 1995) is a 28 item scale that is designed to measure reasons for which an athlete participates in their sport. The SMS measures intrinsic motivation (e.g., “Because I must do sports to feel good about myself”), external regulation (e.g., “For the prestige of being an athlete”), identified regulation (e.g., “Because it is one of the best ways I have chosen to develop myself”), and amotivation (e.g., “I don’t really know anymore; I really don’t think my place is in sport”). Responses are based on a Likert-type scale anchored by 1 “strongly disagree” to 5 “strongly agree”. To obtain a single score for self-determined sport motivation, mean scores for four of the seven subscales (mean score for intrinsic motivation to accomplish things multiplied by 2; mean score for extrinsic motivation by identified regulation multiplied by 1; mean score for extrinsic motivation by external regulation multiplied by -1; and mean score for amotivation multiplied by -2) are combined to provide an index of self-determined motivation (Chantal & Bernache-Assollant, 2003). High positive scores indicate participation characterised by pleasure and enjoyment. The index of self-determined motivation shows high levels of internal consistency (α = .86) when compared to the original Sport Motivation Scale (Chantal & Bernache-Assollant, 2003; Pelletier et al., 1995).

**Perceived Stress**

The Perceived Stress Scale (Cohen et al., 1983) is a 10 item scale used to identify the degree to which life is perceived as stressful (e.g., How often have you felt that you could not cope with all the things you had to do?”). Possible responses fall on a Likert-type scale anchored by 0 “never” to 4 “very often”. Scores are obtained by first reversing the scores on positive items (4, 5, 7 and 8) and then summing the scores over the ten items. Previous studies have reported the internal reliability of the Perceived Stress Scale to be good (α = .81) (Raedeke & Smith, 2004)

**Social Support**
Perceived levels of social support were measured using a 25 item questionnaire developed from participant statements reported in Rees and Hardy (2000) on social support experiences of high-level sport performers. The items incorporate four dimensions of support; emotional (e.g., “To what extent have you had help dealing with on site pressure?”), esteem (e.g., “To what extent have you had help dealing with fitness concerns?”), informational (e.g., “To what extent have you had help dealing with setbacks?”), and tangible (e.g., “To what extent have you had help with alleviating pressure?”). The Likert-type scale responses range from 1 “not at all” to 5 “a lot”. The individual dimensions were scored and averaged, and then the scores for the four subscales were averaged to obtain a final social support score. Raedeke and Smith (2004) reported the internal consistency to be good (α = .88).

**Resilience**

The Resilience Scale for Adults (Friborg et al., 2003) is a 33-item questionnaire designed to assess the presence of protective factors important to regain and maintain mental health. Responses are represented on a Likert-type rating scale of how the participants feel about that statement (e.g., “My plans for the future are...”). Items are summed to obtain a final score, with responses on negative items (2, 4, 5, 7, 8, 9, 12, 15, 16, 17, 19, 21, 23, 27, 28 and 33) reversed initially. Friborg et al., (2003) have reported an internal consistency of the Resilience Scale for Adults to range between α = .67 and α = .90 and over a four month period, a test re-test reliability of .67. All aspects of the questionnaire requesting personal information from the participants such as their name were removed for this study.

**Burnout**

The Athlete Burnout Questionnaire (Raedeke & Smith, 2001) is composed of three 5-item subscales designed to measure sense of accomplishment (e.g., “I’m accomplishing many worthwhile things in my sport”), sport devaluation (e.g., “The effort I spend in my sport would be better spent doing other things”), and emotional exhaustion (e.g., “I am exhausted
by the mental and physical demands of my sport”). Participants respond to 15 questions on a Likert scale anchored by 1 “almost never” to 5 “almost always”. A total summed score of burnout is obtained by averaging the score for the three subscales with higher scores indicating high risk burnout (Lemyre, Hall & Roberts, 2008). Cresswell and Eklund (2005) reported levels of internal consistency between $\alpha = .77$ and $\alpha = .82$ which were also consistent with previous reports (i.e. Raedeke & Smith, 2001). Separate scores for the individual components of burnout were calculated by summing the responses for corresponding items.

Procedure

After receiving approval from the Ethics Committee at Edith Cowan University, all WAFL teams located in the Perth metropolitan area ($N = 8$) were contacted for permission to conduct the study and recruit players to be involved in the research, of which two teams agreed to participate. The aims were explained to the athletes and administrators in accordance with ethical standards. Athletes who agreed to participate in the study provided informed written consent and were asked to complete the questionnaire package. The packages were administered by the researcher at training sessions to ensure those that were completed were returned immediately. Those participants under the age of 18 were permitted to take the packages home to obtain parental consent. They were then required to return the completed questionnaires to their coach who notified the researcher when they were available for collection.

Results

Research design and data analysis

The study utilised a within-subjects correlation design to investigate how the four independent variables of self-determined motivation, stress, social support and resilience affect the dependent variable of burnout. A two-tailed one sample t-test was also used to
determine correlations between the independent variables. Regression analysis examined the relationship between the four independent variables of self-determined motivation, perceived stress, perceived social support and resilience, with the dependent variable of burnout. A second series of regression analyses was conducted on the individual components of burnout with self-determined motivation, stress, social support and resilience.

Data preparation

Two participants were excluded from the analysis as their Resilience Scale for Adults questionnaires were incomplete. Thus the final sample size for the analysis was 35.

Descriptive analysis

The means and standard deviations were recorded for self-determined motivation, stress, social support, and resilience, burnout and burnout dimensions for the participants in the analysis. The sample reported low but positive scores for self-determined motivation ($M = 5.81, SD = 1.34$), average scores for perceived stress ($M = 18.69, SD = 4.57$), low scores for perceived social support ($M = 3.07, SD = .84$), and above average scores of resilience ($M = 31.01, SD = 4.89$). The overall burnout score for the sample was low ($M = 9.6, SD = 2.51$) with participants indicating high scores for sport devaluation ($M = 7.17, SD = 2.79$), and low scores for emotion exhaustion ($M = 6.94, SD = 2.55$) and reduced sense of accomplishment ($M = 15.37, SD = 5.24$) (see Table 1).

Correlation analysis

Table 2 shows the results of the bi-variate correlation analysis of all the measured variables in the study. Whilst significant correlations are only shown between self-determined motivation and social support ($r = .395, p< .05$), the amount of variance in burnout explained by motivation, stress and social support were all small but had a positive relationship. The variance explained by resilience, whilst was also relatively small, had a negative relationship with burnout.
Table 1

Means and standard deviation results for all variables

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-determined motivation</td>
<td>5.81</td>
<td>1.34</td>
</tr>
<tr>
<td>Amotivation</td>
<td>1.37</td>
<td>0.17</td>
</tr>
<tr>
<td>External regulation</td>
<td>3.01</td>
<td>0.69</td>
</tr>
<tr>
<td>Identified regulation</td>
<td>3.82</td>
<td>0.84</td>
</tr>
<tr>
<td>Intrinsic motivation</td>
<td>7.89</td>
<td>0.56</td>
</tr>
<tr>
<td>Stress</td>
<td>18.69</td>
<td>4.57</td>
</tr>
<tr>
<td>Social support</td>
<td>3.07</td>
<td>0.84</td>
</tr>
<tr>
<td>Resilience</td>
<td>31.01</td>
<td>4.89</td>
</tr>
<tr>
<td>Burnout</td>
<td>9.6</td>
<td>2.51</td>
</tr>
<tr>
<td>Sense of Accomplishment</td>
<td>15.37</td>
<td>5.24</td>
</tr>
<tr>
<td>Emotional Exhaustion</td>
<td>6.94</td>
<td>2.55</td>
</tr>
<tr>
<td>Sport Devaluation</td>
<td>7.17</td>
<td>2.79</td>
</tr>
</tbody>
</table>

Table 2

Correlations between measured variables

<table>
<thead>
<tr>
<th></th>
<th>Motivation</th>
<th>Stress</th>
<th>Social Support</th>
<th>Resilience</th>
<th>Burnout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-determined motivation</td>
<td>-</td>
<td>.104</td>
<td>.395*</td>
<td>-.124</td>
<td>.007</td>
</tr>
<tr>
<td>Stress</td>
<td>.104</td>
<td>-</td>
<td>-.034</td>
<td>-.044</td>
<td>.124</td>
</tr>
<tr>
<td>Social Support</td>
<td>.395*</td>
<td>-.034</td>
<td>-</td>
<td>-.303</td>
<td>.134</td>
</tr>
<tr>
<td>Resilience</td>
<td>-.124</td>
<td>-.044</td>
<td>-.303</td>
<td>-</td>
<td>-.090</td>
</tr>
<tr>
<td>Burnout</td>
<td>.007</td>
<td>.124</td>
<td>.134</td>
<td>-.090</td>
<td>-</td>
</tr>
</tbody>
</table>

* Indicates a significant correlation at the 0.05 level (2-tailed)

Results of multiple regression analysis

A standard multiple regression analysis was conducted to determine the association between athletes’ self-determined motivation score, perceived stress and social support scores, perceived resilience (independent variables) and overall burnout scores (dependent variable). Following this another standard multiple regression analysis was conducted to
determine the association between athletes' self-determined motivation score, perceived stress, social support and resilience scores, and the three dimensions of athlete burnout.

Table 3 shows the results of the standard multiple regression analysis of the independent variables on overall burnout scores. These results indicate that none of the four independent variables have a significant effect on predicting burnout. The results also indicate that based on the $B$ values and motivation ($B = -0.073, p > 0.05$) and resilience ($B = -0.046, p > 0.05$) have a negative effect on burnout and perceived stress ($B = 0.135, p > 0.05$) and social support ($B = 0.154, p > 0.05$) both have a positive effect on burnout; however none of them are significant. A linear combination of self-determined motivation, perceived stress, perceived social support and resilience explained 4.1% of the variance in overall burnout scores ($F = 0.321, p > 0.05$).

<p>| Table 3 |
| Multiple regression analysis of independent variables on overall burnout scores |</p>
<table>
<thead>
<tr>
<th>R Square</th>
<th>Standard Error</th>
<th>Standardised coefficient Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.041</td>
<td>4.574</td>
<td></td>
<td>1.816</td>
</tr>
<tr>
<td>SD motivation</td>
<td>.368</td>
<td>-.073</td>
<td>-.373</td>
<td>.711</td>
</tr>
<tr>
<td>Stress</td>
<td>.099</td>
<td>.135</td>
<td>.746</td>
<td>.461</td>
</tr>
<tr>
<td>Social Support</td>
<td>.605</td>
<td>.154</td>
<td>.756</td>
<td>.456</td>
</tr>
<tr>
<td>Resilience</td>
<td>.096</td>
<td>-.046</td>
<td>-.245</td>
<td>.808</td>
</tr>
</tbody>
</table>

Tables 4, 5 and 6 show the results of the regression analysis of the measured variables on sense of accomplishment, emotional exhaustion and sport devaluation respectively. The results of these regression analyses indicate that none of the variables are significantly related to the three components of burnout when tested individually. The linear combination of self-determined motivation, stress, social support and resilience explained 6.0% of the total variance in reduced sense of accomplishment, 3.5% of total variance in emotional exhaustion and 16.5% of variance in sport devaluation scores of the participants.
The purpose of this study was to determine if self-determined motivation, perceived stress, perceived social support and resilience have an effect on the development of burnout symptoms in elite athletes. At the commencement of the research the following hypotheses were outlined, (1) Self-determined motivation, social support and resilience will have a
significant negative effect on burnout symptoms, and (2) Stress will have a significant positive effect on burnout scores.

In general the scores on burnout in the current study were lower than published scores from other studies in the area (e.g., Grylls & Spittle, 2008; Lai & Wiggins, 2003). One possible explanation for the low burnout scores shown by the sample is the time of the training year in which the study was completed. Participants completed the research during the completion of the pre-season period when Lai and Wiggins suggested levels of stress are significantly lower than during the competitive season when burnout scores are shown to rise. Similarly, the level of competition the participants were involved in could explain the lack of burnout symptoms displayed by the athletes. Research has suggested that athletes competing at higher levels of competition, in this case the Australian Football League (AFL) are more likely to experience burnout than players in lower levels of competition, such as the current sample (Gould et al., 1996; Lemyre et al., 2006; Raedeke & Smith, 2004).

With regards to these hypotheses, the results indicated that none of the independent variables of self-determined motivation, stress, social support or resilience were significant predictors of burnout in the participants. However, self-determined motivation and resilience demonstrated a negative relationship with burnout scores, which confirms part of the first hypothesis. Burnout scores were shown to increase as perceived stress scores increased, which supports hypothesis two, however burnout scores were also shown to increase when social support scores increased, a finding which is surprising.

One purpose of this study was to provide evidence in a link between resilience and burnout in athletes. In other fields, an individuals' resilience level has been seen to correlate with levels of social support and stress (Galli & Vealey, 2008; Mummery et al., 2004). Although athletes' resilience scores in this sample did not suggest an overall effect on burnout scores, there was the indication that as resilience increased, levels of burnout
decreased, albeit very minimally. However, this result is an indication that supports the assumption that resilience has an effect in the development of burnout symptoms in athletes. A larger sample size in future studies may contribute to seeking a more definitive association between the two.

*How well do the predictors predict the components of burnout?*

**Self-determined motivation**

The results indicate that self-determined motivation had a positive relationship with emotional exhaustion and reduced sense of accomplishment, and a negative relationship with sport devaluation. High forms of self-determination have been negatively associated with overall burnout in previous research (Cresswell & Eklund, 2000) and the relationship shown by self-determination and sport devaluation support these previous findings. As an athletes’ self-determined motivation decreases (towards amotivation) it is likely that how they perceive and value their sport will also decrease, creating higher levels of sport devaluation (Cresswell et al., 2005). Although these results are not significant they do provide some evidence in supporting the role of self-determined motivation in predicting burnout in athletes.

**Stress**

Stress scores were shown to have a positive relationship with sport devaluation, and a negative relationship with both emotional exhaustion and reduced sense of accomplishment. Stress has been consistently linked with burnout in sports settings (Dale & Weinberg, 1990) and the results surrounding stress and sport devaluation provide added support for these links. Similarly to self-determined motivation, as stress levels increase it seems likely that devaluation of sport by athletes will also increase. These present findings are supported in the literature which has also found a positive relationship between stress and sport devaluation.
Athlete Burnout 54

(Goodger, Wolfenden & Lavallee, 2007). Although these results are not significant they do provide some evidence in supporting the role of stress in predicting burnout in athletes.

**Social Support**

Social support scores were shown to have a positive relationship with both sport devaluation and reduced sense of accomplishment, and a negative relationship with emotional exhaustion. The results associated with emotional exhaustion are not surprising and support the majority of past research in the area. It provides more evidence for Coakley's (1992) theory that individuals involved in team sports will demonstrate low levels of burnout than those in individual sports, due to adequate support systems. However, the results relating to reduced sense of accomplishment and sport devaluation are surprising. The present findings indicate that as social support scores increase, sport devaluation and reduced sense of accomplishment scores also increase. This may be attributed to the notion that some support systems athletes are exposed to may serve as a hindrance rather than a benefit (Rees & Hardy, 2000). Martin, Kelley and Eklund (1999) attributed this to the idea that athletes respond more effectively to support systems matched with their needs and requirements rather than just any support system. This present results provide emphasis to this notion and also they have shown no significant effect on burnout, they provide some evidence in supporting the role of social support in burnout. Future research may benefit from investigating the types of support systems that are most beneficial to athletes.

**Resilience**

Resilience was shown to have a positive interaction with both emotional exhaustion and sport devaluation, and a negative interaction with reduced sense of accomplishment. Based on what we know about resilience in other fields, it is not surprising those athletes who were demonstrating lower levels of resilience where also showing higher levels of reduced sense of accomplishment. Resilience allows an individual to overcome a major disruption and
based on these findings, if an athlete is demonstrating low levels of resilience they may start to feel that they are not accomplishing their goals in sport. In a situation where goals have been set and extensively planned for, and has a negative outcome, this may beget future negative performances – reducing an athletes’ sense of accomplishment and in turn make them more susceptible to burnout symptoms (Mummery et al., 2004). However, the results that higher levels of resilience were exhibiting higher levels of emotional exhaustion and sport devaluation are surprising, and indicate that more research on the impact of resilience on athlete burnout is needed.

In hindsight, there were some substantial flaws in the study. The use of a self-report measure can create unreliable results. Participants may tend to exaggerate or feel embarrassed by their responses. However due to the nature of the study only self-report measures were available and thus this limitation may be an avenue that needs to be looked at in future research. The low sample size used for the study is a major limitation. Multiple regression analyses with four variables requires a minimum of 82 participants to indicate a valid result (Field, 2009) and as mentioned earlier, similar research with a larger sample size would be beneficial.

**Conclusion**

For years sport psychology researchers have been interested in the psychological phenomenon of burnout in athletes. Its debilitating physical and psychological implications have caught the interest of all professions in the sporting context. Whilst the majority of research has looked into stress and motivation as influences on athletic burnout, little research has looked into the effects of resilience and burnout. The present report has shown that although in this sample no significant result was found, there is a small correlation between resilience and burnout. Future research should test the seven factor scales of resilience on the
three components of burnout, and further explore the role played by stress and motivation in athletic burnout.
References


Appendix A

Athlete Questionnaire Package
Information Letter

April 2009

Dear Participant,

I am seeking consent for you to participate in a research project that is required for my Honours Thesis through the School of Psychology at Edith Cowan University. This project has been approved by the Faculty of Computing, Health and Science Ethics Committee of Edith Cowan University and will be supervised by Mr Craig Harms.

The particular focus of this study is to examine how the factors that might influence the susceptibility of athletes to burnout when training at an elite level. You will be asked to complete a series of five short questionnaires and to complete those questionnaires as honestly as possible. It is expected to take no more than 30 minutes to complete.

All information gathered as part of this project will be treated as strictly confidential and anonymous and you may withdraw at any time.

If you have any queries about this project or would like further information please contact myself [REDACTED] or my project supervisor Mr Craig Harms on 6304 5715. If you wish to contact someone independent from the study you may contact Dr Justine Dandy on 6304 5105.

If you consent participating in this research please sign the attached consent form as soon as possible and return it myself.

If you feel concerned by any of the information you have provided or experience any distress following completing these questionnaires do not hesitate to contact any of the following services:

Kids Help Line (young people between 5-18): www.kidshelp.com.au
Youth Beyond Blue (youth between 18-25): www.youthbeyondblue.com
Health Insite (information on a range of health topics): www.healthinsite.gov.au

Yours sincerely,
Blythe Gooden
Consent Form

Please read the information letter provided and sign below indicating that you agree to participate in the research. If you are under 18 years of age, please also provide the signature of your parent or guardian indicating they give consent to your involvement in the research.

I __________________________ (the name of the participant) have read the information provided with this consent form. The questions I have asked have been answered to my satisfaction. I agree to participate in the activities associated with this research and understand that I can withdraw consent at any time. I agree that the research gathered during this project can be used to complete a student report provided and I will not be identified in any way.

Signed __________________________

Parental Consent

I __________________________ (the parent/guardian of the participant) have read the information provided with this consent form and any questions I have asked have been answered to my satisfaction. I agree to allow my child to participate in the activities associated with this research and understand that I can withdraw consent at any time.

Signed __________________________

Once you and your parent (if required) have signed the consent forms please complete the following questionnaires as honestly as possible.

Thank you.
Athlete Details

Please complete the following details concerning your involvement with the Institute.

Age: _______ (years)  Gender: _______

Sport which you are involved: __________  Total years in that sport: __________ (years)

Time with the institute: _______ (years)  Highest level of competition: __________
Sport Motivation

Directions: Using the scale below, please indicate to what extent each of the following items corresponds to one of the reasons for which you are practicing and competing in your sport.

1. strongly disagree  2. disagree  3. neutral  4. agree  5. strongly agree

___ 1. For the pleasure I feel in living exciting experiences.

___ 2. For the pleasure it gives me to know more about the sport that I practice.

___ 3. I used to have good reasons for doing sports, but now I am asking myself if I should continue doing it.

___ 4. For the pleasure of discovering new training techniques.

___ 5. I don't know anymore; I have the impression that I am incapable of succeeding in this sport.

___ 6. Because it allows me to be well regarded by people that I know.

___ 7. Because, in my opinion, it is one of the best ways to meet people.

___ 8. Because I feel a lot of personal satisfaction while mastering certain difficult training techniques.

___ 9. Because it is absolutely necessary to do sports if one wants to be in shape.

___ 10. For the prestige of being an athlete.

___ 11. Because it is one of the best ways I have chosen to develop other aspects of myself.

___ 12. For the pleasure I feel while improving some of my weak points.

___ 13. For the excitement I feel when I am really involved in the activity.

___ 14. Because I must do sports to feel good about myself.

___ 15. For the satisfaction I experience while I am perfecting my abilities.

___ 16. Because people around me think it is important to be in shape.

___ 17. Because it is a good way to learn lots of things which could be useful to me in other areas of my life.

___ 18. For the intense emotions that I feel while I am doing a sport that I like.
19. It is not clear to me anymore; I don’t really think my place is in sport.

20. For the pleasure that I feel while executing certain difficult movements.

21. Because I would feel bad if I was not taking time to do it.

22. To show others how good I am at my sport.

23. For the pleasure that I feel while learning training techniques that I have never tried before.

24. Because it is one of the best ways to maintain good relationships with my friends.

25. Because I like the feeling of being totally immersed in the activity.

26. Because I must do sports regularly.

27. For the pleasure of discovering new performance strategies.

28. I often ask myself; I can’t seem to achieve the goals that I set for myself.
Perceived Stress

Direction: The questions in this scale ask you about your feelings and thoughts in the last six months. Using the scale below, please indicate the extent to which you have felt a certain way in the last six months.

0 never 1 almost never 2 sometimes 3 fairly often 4 very often

1. How often have you been upset because of something that happened unexpectedly?

2. How often have you felt that you were unable to control the important things in your life?

3. How often have you felt nervous or stressed?

4. How often have you felt confident about your ability to handle your personal problems?

5. How often have things felt that they were going your way?

6. How often have you felt that you could not cope with all the things you had to do?

7. How often have you been able to control irritations in your life?

8. How often have you felt that you were on top of things?

9. How often have you been angered because of things that were outside of your control?

10. How often have you felt difficulties were piling up so high that you could not overcome them?
Social Support

Directions: The questions in this scale ask you about your thoughts and feelings in the last six months. Using the scale below, please indicate how often you have felt a certain way.

0 not at all  1 rarely  2 sometimes  3 often  4 a lot

___ 1. To what extent have you had help in dealing with technical problems in training?

___ 2. To what extent have you had help dealing with being down about your sport?

___ 3. To what extent have you had help with dealing with issues regarding training and competition?

___ 4. To what extent have you had help dealing with on site pressure?

___ 5. To what extent have you had help with dealing with being dropped?

___ 6. To what extent have you had help with dealing with worries and problems in your sport?

___ 7. To what extent have you had help with dealing with fitness concerns?

___ 8. To what extent have you had help with issues regarding selection?

___ 9. To what extent have you had help with dealing with general pressure?

___ 10. To what extent have you had help with dealing with injuries?

___ 11. To what extent have you had help with dealing with loss of confidence?

___ 12. To what extent have you had help with dealing with pressures of important matches?

___ 13. To what extent have you had help with dealing with pre-competition nerves and doubts?

___ 14. To what extent have you had help with ongoing pressures of sport commitment?

___ 15. To what extent have you had help with dealing with setbacks?

___ 16. To what extent have you had help with dealing with performance catastrophes?

___ 17. To what extent have you had help with issues regarding coming back after a break?

___ 18. To what extent have you had help with alleviating pressure?
19. To what extent have you had help with performance concerns?

20. To what extent have you had help to reduce worries about a practical matter?

21. To what extent have you had general help?

22. To what extent have you had help dealing with relationship issues?

23. To what extent have you had help dealing with down times?

24. To what extent have you had help with life direction regarding the future?

25. To what extent have you had help at competition?
RESILIENCE QUESTIONNAIRE
Athlete Burnout Questionnaire

Directions: A number of statements that athletes have used to describe their feelings about sport are given below. For each item, please indicate the degree to which you have felt, on average, in the last 6 months using the scale below.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>almost never</td>
</tr>
<tr>
<td>2</td>
<td>rarely</td>
</tr>
<tr>
<td>3</td>
<td>sometimes</td>
</tr>
<tr>
<td>4</td>
<td>frequently</td>
</tr>
<tr>
<td>5</td>
<td>almost always</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 sport
____ 6. I don’t care as much about my sport performance as I used to
____ 7. I am not performing up to my ability in my sport
____ 8. I feel “wiped out” from sport
____ 9. I’m not into my sport like I used to be
____ 10. I feel physically worn out from 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

You have now completed the package. Please return it as soon as possible to your coach. Thank you for participating in this research.
Guidelines for Contributions by Authors
Resilience Scale for Adults

Please think of how you usually are, or how you have been the last month, how you think and feel about yourself, and about important people surrounding you. Please check the option box that is closest to the end statement that describes you best.

(Developed by Odin Hjemdal & Oddgeir Friborg)

<table>
<thead>
<tr>
<th>Name:</th>
<th>Todays date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td>Gender: female/male</td>
</tr>
</tbody>
</table>

1. My plans for the future are **difficult to accomplish**
   - possible to accomplish
2. When something unforeseen happens **I always find a solution**
   - I often feel bewildered
3. My family’s understanding of what is important in life is **quite different than mine**
   - very similar to mine
4. I feel that my future looks **very promising**
   - uncertain
5. My future goals **I know how to accomplish**
   - I am unsure how to accomplish
6. I can discuss personal issues with **no one**
   - friends/family-members
7. I feel **very happy with my family**
   - very unhappy with my family
8. I enjoy being **together with other people**
   - by myself
9. Those who are good at encouraging me are **some close friends/family members**
   - nowhere
10. The bonds among my friends is **weak**
    - strong
11. My personal problems **are unsolvable**
    - I know how to solve
12. When a family member experiences a crisis/emergency **I am informed right away**
    - it takes quite a while before I am told
13. My family is characterized by **disconnection**
    - healthy coherence
14. To be flexible in social settings **is not important to me**
    - is really important to me
15. I get support from **friends/ family members**
    - No one
16. In difficult periods my family keeps a positive outlook on the future **Views the future as gloomy**
17. My abilities **I strongly believe in**
    - I am uncertain about
18. My judgements and decisions **I often doubt**
    - I trust completely
19. New friendships are something **I make easily**
    - I have difficulty making
20. When needed, I have **no one who can help me**
    - always someone who can help me
<table>
<thead>
<tr>
<th>Question</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. I am at my best when I have a clear goal to strive for</td>
<td>can take one day at a time</td>
</tr>
<tr>
<td>22. Meeting new people is difficult for me</td>
<td>something I am good at</td>
</tr>
<tr>
<td>23. When I am with others I rarely laugh</td>
<td>I seldom laugh</td>
</tr>
<tr>
<td>24. When I start on new things/projects I prefer to have a thorough plan</td>
<td></td>
</tr>
<tr>
<td>25. Facing other people, our family acts unsupportive of one another</td>
<td>loyal towards one another</td>
</tr>
<tr>
<td>26. For me, thinking of good topics for conversation is difficult</td>
<td>easy</td>
</tr>
<tr>
<td>27. My close friends/family members appreciate my qualities</td>
<td>dislike my qualities</td>
</tr>
<tr>
<td>28. I am good at organizing my time</td>
<td>wasting my time</td>
</tr>
<tr>
<td>29. In my family we like to do things on our own</td>
<td>do things together</td>
</tr>
<tr>
<td>30. Rules and regular routines are absent in my everyday life</td>
<td>simplify my everyday life</td>
</tr>
<tr>
<td>31. In difficult periods I have a tendency to view everything gloomy</td>
<td>find something good that help me thrive/prosper</td>
</tr>
<tr>
<td>32. My goals for the future are unclear</td>
<td>well thought through</td>
</tr>
<tr>
<td>33. Events in my life that I cannot influence I manage to come to terms with</td>
<td>are a constant source of worry/concern</td>
</tr>
</tbody>
</table>
Factor structure, scoring:
Items marked * are reversed (negative statements placed at the right end of the scale). These responses need to be reversed (1=7, 2=6, 3=5, 4=4, 5=3, 6=2, 7=1).

Factor 1: Perception of self (6 items): 2*, 11, 17*, 18, 31, 33*

Factor 2: Planned future (4 items): 1, 4*, 5*, 32

Factor 3: Social competence (6 items): 8*, 14, 19*, 22, 23*, 26

Factor 4: Family cohesion (6 items): 3, 7*, 13, 16*, 25, 29

Factor 5: Social resources (7 items): 6, 9*, 10, 12*, 15*, 20, 27*

Factor 6: Structured style (4 items): 21*, 24, 28*, 30