Psychological resilience in sport performers: a review of stressors and protective factors

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Psychological Resilience in Sport Performers:
A Review of Stressors and Protective Factors

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Abstract

Psychological resilience is important in sport because athletes must utilize and optimize a range of mental qualities to withstand the pressures that they experience. In this paper, we discuss psychological resilience in sport performers via a review of the stressors athletes encounter and the protective factors that help them withstand these demands. It is hoped that synthesizing what is known in these areas will help researchers gain a deeper profundity of resilience in sport, and also provide a rigorous and robust foundation for the development of a sport-specific measure of resilience. With these points in mind, we divided the narrative into two main sections. In the first section, we review the different types of stressors encountered by sport performers under three main categories: competitive, organizational, and personal. Based on our recent research examining psychological resilience in Olympics champions (Fletcher & Sarkar, 2012), in the second section we discuss the five main families of psychological factors (viz. positive personality, motivation, confidence, focus, perceived social support) that protect the best athletes from the potential negative effect of stressors. It is anticipated that this review will help sport psychology researchers examine the interplay between stressors and protective factors which will, in turn, focus the analytical lens on the processes underlying psychological resilience in athletes.

*Keywords:* athletes, demands, pressures, psychological characteristics, resilient qualities, sport performance.
Psychological Resilience in Sport Performers: A Review of Stressors and Protective Factors

The sporting arena represents a ‘natural laboratory’ to study how individuals operate and perform in highly demanding circumstances. Top-level sport is characterized by the ability of athletes to utilize and optimize a range of psychological qualities to withstand the pressures that they experience (Fletcher & Sarkar, 2012; Gould, Dieffenbach, & Moffett, 2002). Over the past few decades, researchers have identified numerous stressors that sport performers encounter (see, e.g., McKay, Niven, Lavallee, & White, 2008; Scanlan, Stein, & Ravizza, 1991) and explored the role of psychological characteristics in helping elite performers adapt to setbacks and transitions encountered along the pathway to excellence (MacNamara, Button, & Collins, 2010a; 2010b). The influence of psychological factors within the context of the stress process is typically conceptualized as psychological resilience (cf. Fletcher & Sarkar, 2013).

The study of psychological resilience seeks to understand why some individuals are able to withstand – or even thrive on – the pressure they experience in their lives. We recently defined psychological resilience as “the role of mental processes and behavior in promoting personal assets and protecting an individual from the potential negative effect of stressors” (Fletcher & Sarkar, 2012, p. 675; 2013, p. 16). This definition extends previous conceptual work in this area in a number of ways. First, the focus on psychological resilience delimits the scope of the description, by definition, to “mental processes and behavior” and excludes other types of resilience such as physical, molecular, and structural resilience. Second, this definition encapsulates aspects of both trait and process conceptualizations of resilience (cf. Fletcher & Sarkar, 2012, 2013). Regarding the trait conceptualization, the “mental processes and behavior” enable individuals to adapt to the circumstances they encounter (cf. Connor & Davidson, 2003). The process conceptualization of resilience recognizes that it is a capacity that develops over time in the context of person-environment interactions (Egeland, Carlson, & Stroufe, 1993). Central to the definition is the focusing of the conceptual lens on the role that psychological-related phenomena play – rather than the mental processes and behavior per se – in avoiding negative consequences. Third, the emphasis is placed on the more neutral term “stressor” rather than the
negative value-laden term “adversity” (cf. Fletcher & Sarkar, 2013). Fourth, the focus is on
“promoting personal assets and protecting an individual from the potential negative effect of
stressors” rather than positive adaptation per se, because resilience generally refers to the ability
of individuals to maintain normal levels of functioning rather than the restoration or enhancement
of functioning (cf. Bonanno, 2004). Although not directly related to the presented definition, a
relevant conceptual debate in this area is the comparison between psychological resilience and
other potentially related constructs. The interested reader is directed to relevant papers that
discuss the similarities and differences between resilience and other psychological phenomena
such as mental toughness (see Gucciardi & Gordon, 2009; Gucciardi, Gordon, & Dimmock,
2008, 2009), hardiness (see Howe, Smajdor, & Stockl, 2012; Windle, 2011), recovery (see
Bonnano, 2004; deRoon-Cassini, Mancini, Rusch, & Bonanno, 2010; Deshields, Tibbs, Fan, &
Taylor, 2006; Lam et al., 2010), and coping (see Campbell-Sills, Cohan, & Stein, 2006; Major,
Richards, Cozzarelli, Cooper, & Zubek, 1998; Van Vliet, 2008).

In terms of the extant resilience research, studies have sampled children, adults and
families who have overcome significant adversities in their lives, including the death of a parent
(Greeff & Human, 2004), childhood sexual abuse (Bogar & Hulse-Kilacky, 2006), and terrorism
(Bonanno, Galea, Bucciarelli, & Vlahov 2007). When considering the adversity experienced by
study participants, resilience researchers have tended to employ a threshold-dependent conception
by defining adversity in terms of statistical probabilities; that is, the focus is on negative life
events that are statistically associated with maladjustment, an approach that is closely aligned to
the notion of risk (Fletcher & Sarkar, 2013). Due to the contextual specificity of resilience (cf.
Luthar et al., 2000), the findings of many studies in this area are not easily applicable to elite
athletes who actively choose to participate in competitive sport and engage with its inherent
demands largely of their own volition (cf. Fletcher & Sarkar, 2012).

Over the past few years, researchers have begun to specifically investigate psychological
resilience in sport performers (e.g., Fletcher & Sarkar, 2012; Galli & Vealey, 2008). In one of the
initial sport resilience studies, Galli and Vealey (2008) interviewed college and professional
athletes’ about their perceptions and experiences of resilience. Four different adversities were
identified: injury, performance slump, illness, and career transition. The findings revealed various personal resources and socio-cultural factors that influenced the athletes’ efforts to manage the unpleasant emotions and mental struggles associated with the adversities. Resilient qualities included positivity, determination, competitiveness, commitment, maturity, persistence, passion for the sport, and strong networks of social support. During the interviews, the “athletes were asked to describe the most difficult adversity that they ever had to overcome as an athlete . . .

[and] . . . all subsequent questions were in reference to the adversity identified by the athlete” (p. 321). As noted by Galli and Reel (2012), this was perhaps an oversimplification of the participants’ sport experiences given that athletes typically encounter multiple challenges simultaneously rather than in isolation. Another point worth highlighting is that Galli and Vealey (2008) recognized that further knowledge of the resilient qualities that enable sport performers to positively adapt to stressors is necessary to enhance understanding of resilience in sport.

In the most recent sport resilience study, we interviewed twelve Olympic champions to explore and explain the relationship between psychological resilience and optimal sport performance (Fletcher & Sarkar, 2012). We found that Olympic gold medalists encountered a wide variety of different stressors, ranging from ongoing daily demands (e.g., balancing work and training) to major life events (e.g., the death of a close family member). The emergent grounded theory (see Figure 1) indicated that the world’s best athletes protect themselves from the potential negative effect of stressors by influencing their challenge appraisal and meta-cognitions. These constructive cognitive reactions promoted facilitative responses that appeared to be firmly embedded in taking personal responsibility for one’s thoughts, feelings, and actions. In turn, positive responses led to the realization of optimal sport performance. Importantly in the context of the present discussion, Olympic champions possess several psychological-related phenomena (relating to a positive personality, motivation, confidence, focus and perceived social support) that underpin the resilience-stress-performance relationship.

In the majority of sport resilience studies, it is worth noting that the authors have identified a need for a measure of psychological resilience in athletic performers to advance sport psychologists’ understanding of this area. To further enhance researchers’ knowledge of
measuring resilience in athletes, and in line with a recommendation by Gucciardi, Jackson, Coulter, and Mallett (2011), we recently reviewed psychometric issues in resilience research and considered the implications for sport psychology (Sarkar & Fletcher, 2013). Importantly in the context of the present discussion, we contended that examining the interplay between stressors and protective factors is essential since it focuses the analytical lens on the processes underlying adaptation or vulnerability (see also Luthar & Zelazo, 2003; Naglieri & LeBuffe, 2005; Rutter, 2006; Windle, 2011). The importance of the context was recently emphasized by Gucciardi et al. who argued that “important protective (e.g., teammate support) and vulnerability (e.g., rigorous training schedules) factors are likely not to be adequately captured when using [current resilience] measures . . . that were developed with other [than sport] populations in mind” (p. 431). Hence, before developing a sport-specific measure of resilience, we recommended that researchers utilize the empirical knowledge base in the pivotal resilience-related areas of stressors and protective factors (Sarkar & Fletcher, 2013).

In this paper we discuss psychological resilience in sport performers via a review of the stressors athletes encounter and the protective factors that help them withstand these demands. To the best of our knowledge, this is the first review of resilience in sport. It is hoped that synthesizing what is known in these areas will help researchers gain a deeper profundity of resilience in sport, and also provide a rigorous and robust foundation for the development of a sport-specific measure of resilience. Indeed, Rutter (2006) observed that “resilience is an interactive concept that can only be studied if there is a thorough measurement of risk and protective factors” (p. 3). We undertook a narrative review to allow for extensive coverage of psychological resilience in sport performers. A systematic review was not considered appropriate due to the broad nature of the research topic (cf. Davydov, Stewart, Ritchie, & Chaudieu, 2010). Indeed, this is reflected in the general psychology literature which currently does not have any published systematic reviews of resilience, but numerous narrative reviews (see, e.g., Davydov et al., 2010; Fletcher & Sarkar, 2013; Luthar & Zelazo, 2003; Windle, 2011). Furthermore, in an editorial entitled, ‘Balancing the strengths of systematic and narrative reviews’, Collins and Fauser (2005) remarked:
The primary problem is that the narrow focus and prescribed methods of the systematic review do not allow for comprehensive coverage. [Certain] topics . . . require the wider scope of a traditional narrative review, in which less explicit methods are the trade-off for broader coverage (pp. 103-104).

We divided the narrative into two main sections. In the first section we review the different types of stressors encountered by sport performers under three main categories: competitive, organizational, and personal. Based on our grounded theory of psychological resilience in Olympics champions (Fletcher & Sarkar, 2012), in the second section we discuss the five main families of psychological factors (viz. positive personality, motivation, confidence, focus, perceived social support) that protect the best athletes from the potential negative effect of stressors. The review is organised around our model because it is the only sport-specific theory of resilience, grounded in original data, which is free from the constraints of a preconceived model.

In line with the narrative review approach adopted in this paper, studies were selected based on situational choices about the inclusion of evidence (cf. Collins & Fauser, 2005; Dijkers, 2009). In this review, we selected studies that significantly advanced researchers’ knowledge of the stressors encountered by competitive athletes and enhanced researchers’ understanding of withstanding stress and pressure in competitive sport.

**Stressors**

We recently observed that when researchers investigate how individuals’ positively adapt to difficult life events, adversities or risks are predominantly considered (Fletcher & Sarkar, 2013); that is, resilience researchers focus on negative life circumstances that are known to be statistically associated with adjustment difficulties (cf. Luthar et al., 2000). We went on to argue that this threshold-dependent approach is somewhat limited since it typically precludes the inclusion of many highly taxing, yet still common, events. This is pertinent for the sport context since athletes often experience regular everyday hassles that are embedded in their sporting lives, such as relationship problems, inadequate preparation, and logistical issues (see, e.g., Thelwell, Weston, & Greenlees, 2007). Moreover, although the term “adversity” associates negative circumstances with negative consequences, ostensibly positive life experiences – that are not
typically associated with a higher probability of undesirable outcomes – are also relevant in resilience research (Fletcher & Sarkar, 2013). To illustrate, in a sport context, winning an important competition is unlikely to be labeled as an adversity but will nonetheless require individuals to positively adapt to the inevitable heightened expectations related to success (cf. Kreiner-Phillips & Orlick, 1993). On the basis of these arguments, we proposed that when assessing resilience in sport performers “it is imperative that researchers consider the inclusion of both significant life events and ongoing daily challenges” (Sarkar & Fletcher, 2013, p. 266).

Thus, to allow different types of situations, circumstances, and experiences to be included under the rubric of resilience, the more neutral term “stressor” is employed here and defined as “the environmental demands (i.e., stimuli) encountered by an individual” (Fletcher, Hanton, & Melallieu, 2006, p. 359).

Over the past couple of decades or so, sport psychology researchers have unearthed a wide range of stressors encountered by sport performers (see, e.g., Gould, Jackson, & Finch, 1993; McKay et al., 2008; Mellalieu, Neil, Hanton, & Fletcher, 2009; Noblet & Gifford, 2002; Scanlan et al., 1991; Thelwell et al., 2007; Weston, Thelwell, Bond, & Hutchings, 2009; Woodman & Hardy, 2001). Collectively, the stressors identified in these studies have been associated with competitive performance, the sport organization within which athletes operate, and personal “nonsporting” life events (Fletcher et al., 2006). Based on this classification, the following subsections will review and synthesize the stressors experienced by athletes in each of these respective categories.

**Competitive Stressors**

Competitive stressors are defined as “the environmental demands associated primarily and directly with competitive performance” (Mellalieu, Hanton, & Fletcher, 2006, p. 3). Sport psychology researchers identified performance-related stressors in a number of early exploratory studies (e.g., Gould et al., 1993; Holt & Hogg, 2002; James & Collins, 1997). More recently, scholars have investigated competitive stressors in a more systematic fashion (see, Hanton et al., 2005; Mellalieu et al., 2009; Neil, Hanton, Mellalieu, & Fletcher, 2011). Based on the collective findings of these studies, stressors experienced in relation to competitive performance include
preparation, injuries, pressure, underperforming, expectations, self-presentation, and rivalry.

Demands related to preparation for competition have been frequently cited by the majority of athletes in studies exploring the different types of environmental demands (see, e.g., Weston et al., 2009). Specifically, sport performers have identified how various aspects of their preparation (physical, mental, technical, and tactical) were at times inadequate, inappropriate, or arduous prior to competition. Another common stressor, experienced by a variety of athletic populations, has been sport-related injuries (see, e.g., Gould, Udry, Bridges, & Beck, 1997).

Injury-related pressures include the risk of sustaining an injury, the risk of being deliberately injured due to an opponent’s actions, the act of getting injured, determining the cause of injury, the inability to train, missing important competitions, loss of fitness, attaining pre-injury levels of performance, and competing whilst injured (see Evans, Wadey, Hanton, & Mitchell, 2012). In addition, athletes have reported the pressure to perform well at competition (see, e.g., McKay et al., 2008). To illustrate, sport performers have identified the demands of international competition, performing under pressure, and the pressure to beat others. Furthermore, underperforming in competition has been a frequent demand encountered by a variety of sport performers (see, e.g., Dugdale, Eklund, & Gordon 2002). Specifically, athletes have reported pressures related to making mistakes or errors during performance, periods of limited progress, not achieving performance goals, poor personal and team performances, not performing as expected, a loss of form, and performance slumps.

One of the most common stressors experienced by athletes is performance expectations (see, e.g., Gould et al., 1993). Internal expectations, that is, pressures that a performer places on his or her self as a result of external demands, include wanting to start well during competition, aspiring to perform to one’s ability, and staying at the top of the rankings. External expectations, that is, pressures placed on a performer by an external source, include being the favorite for a competition, starting well for the benefit of the team, other people expecting you to do well, competing for a better ranking place, and competing on live television. Self-presentation issues have been repeatedly identified by numerous athletes (see, e.g., James & Collins, 1997). Frequently cited demands in this subcategory include the evaluation of performance from coaches.
and teammates, not wanting to let coaches and teammates down, wanting to look the part physically, the demonstration of ability, and seeking recognition. The final type of competitive stressor encountered by sport performers relates to the rivalry experienced as part of competition (see, e.g., Thelwell et al., 2007). Rivalry-related demands include competing against better athletes, opponents behaving deviously, and competing against up-and-coming opponents.

**Organizational Stressors**

Organizational stressors are defined as “the environmental demands associated primarily and directly with the organization within which an individual is operating” (Fletcher et al., 2006, p. 359). In a number of early studies that identified different types of environmental demands, sport psychology researchers unearthed a variety of organizational-related stressors (see, e.g., Gould et al., 1993; Scanlan et al., 1991). Subsequently, scholars began to systematically investigate the organizational stressors encountered by athletic performers (see, e.g., Fletcher & Hanton, 2003; Fletcher, Hanton, Mellalieu, & Neil, 2012; Hanton, Fletcher, & Coughlan, 2005; Kristiansen & Roberts, 2010; Woodman & Hardy, 2001).

To advance the body of knowledge in this area, Arnold and Fletcher (2012) recently synthesized the research that has identified the organizational stressors encountered by athletes and developed a taxonomic classification of these environmental demands. Using a meta-interpretation method, thirty-four studies (with a combined sample of 1809 participants) were analyzed and yielded 640 distinct organizational stressors. The demands were abstracted into 31 subcategories, which formed four categories: leadership and personal issues, cultural and team issues, logistical and environmental issues, and performance and personal issues. Leadership and personal issues consisted of the coach’s behaviors and interactions, the coach’s personality and attitudes, external expectations, support staff, sports officials, spectators, media, performance feedback, and the governing body. Cultural and team issues consisted of teammates’ behaviors and interactions, communication, team atmosphere and support, teammates’ personality and attitudes, roles, cultural norms, and goals. Logistical and environmental issues consisted of facilities and equipment, selection, competition format, structure of training, weather conditions, travel, accommodation, rules and regulations, distractions, physical safety, and technology.
Finally, performance and personal issues consisted of injuries, finances, diet and hydration, and career transitions.

Beyond the identification of stressors encountered by athletes, researchers in this area have explored the content and quantity of stressors in elite and non-elite sport performers. For example, Hanton et al. (2005) found that elite athletes experienced and recalled more demands associated primarily and directly with the sport organization than with competitive performance. Furthermore, this population appeared more likely to experience similar competitive stressors but varied organizational stressors, perhaps because the former are typically common to most athletes’ experiences of performance, whereas the latter are generally disparate and subject to numerous sociocultural, political, economic, occupational, and technological influences. More recently, Fletcher et al. (2012) compared the frequency and content of organizational stressors between elite and non-elite sport performers. They found that the higher skilled participants encountered more stressors than the lower skilled participants. The findings also suggested that across skill levels certain types of organizational stressors are experienced and recalled more frequently than others. More specifically, the elite performers mentioned travel and accommodation arrangements, income and funding, media attention, and a lack of participation in the decision-making process more often than their non-elite counterparts. To examine the potential negative effects of organizational stress on sport performers, Tabei, Fletcher, and Goodger (2012) investigated the relationship between organizational stressors and burnout in collegiate soccer players. Results revealed multiple organizational stressors linked to athlete burnout comprising training and competition load, training and competition environment, travel arrangements, nutritional issues, risk of injury, leadership style, lack of social support, career and performance development, inadequate communication channels, and role overload.

**Personal Stressors**

Personal stressors are defined as the environmental demands associated primarily and directly with personal “nonsporting” life events. Within this category, stressors encountered by sport performers include: the work-life interface, family issues, and the death of a significant other. Firstly, the work-life interface has been repeatedly identified as a stressor in the sport
psychology literature (see, e.g., Gould et al., 1993). Youth athletes in the initial stages of their career have identified difficulties associated with academic commitments, and balancing educational goals with personal relationships (see, e.g., McKay et al., 2008). Older athletes in the latter stages of their career have identified demands related to work commitments, specifically the difficulties of balancing personal relationships with a job (see, e.g., Noblet & Gifford, 2002).

Within this subcategory, relocation-related pressures have also been recognized, including problems with finding suitable accommodation, missing family and friends, and adjusting to independent living (see, e.g., Giacobbi et al., 2004). Secondly, family issues have been a frequent demand encountered by a wide variety of athletes. Specifically, sport performers have faced financial pressures of having to provide for a family (see, e.g., Thelwell et al., 2007), relationship problems (see, e.g., Gould et al., 1993), family responsibilities (see, e.g., Weston et al., 2009), and a volatile family life at home (see, e.g., Scanlan et al., 1991). Thirdly, a number of sport performers have identified the death of a significant other. Some athletes have experienced the death of a family member (see, e.g., McKay et al., 2008) whereas others have experienced the loss of team members (see, e.g., Scanlan et al., 1991).

In summary, this section has reviewed the stressors encountered by sport performers under the following categories and subcategories: competitive performance (preparation, injuries, pressure, underperforming, expectations, self-presentation, and rivalry), the sport organization within which the athletes operate (leadership and personal issues, cultural and team issues, logistical and environmental issues, and performance and personal issues), and personal “nonsporting” life events (work-life interface, family issues, and the death of a significant other).

By synthesizing the wealth of knowledge in this pivotal resilience-related area, across a large number and wide range of studies, it is anticipated that researchers will gain a more complete understanding of the stressors encountered in competitive sport. In the context of psychological resilience, and from an applied perspective, it is crucial that individuals’ immediate environment is carefully managed to optimize the stressors they encounter in their lives. Traditionally, there has been a tendency to assume that negative situations and circumstances impede positive adaptation. However, Seery, Holman, and Silver (2010) recently found that people with a history
of some lifetime adversity reported better mental health and well-being outcomes than people
with no history of adversity (see also Neff & Broady, 2011; Seery, 2011). Drawing from theories
of stress inoculation (Meichenbaum, 1985), it has been suggested that exposure to stressors in
moderation can mobilize previously untapped resources, help engage social support networks,
and create a sense of mastery for future stressors. Thus, where possible, aspiring high performers
should be encouraged to actively seek out challenging situations since this will make subsequent
demands seem more manageable, leading to improvements in performance (see, e.g., Arnetz,

**Protective Factors**

Within the field of psychology, early research examining resilience represented a
“paradigm shift from looking at risk factors that led to psychosocial problems to the identification
of strengths of an individual” (Richardson, 2002, p. 309). Increasingly, researchers focused on
identifying the characteristics of individuals, particularly young people, who thrived whilst living
in difficult circumstances, such as poverty and parental mental illness (Garmezy, 1991; Rutter,
1990; Werner & Smith, 1992). Examples of such qualities were: an easy temperament, good self-
esteeem, planning skills, and a supportive environment inside and outside the family. These
qualities have been referred to as protective factors, which Rutter (1985) defined as “influences
that modify, ameliorate, or alter a person’s response to some environmental hazard that
predisposes to a maladaptive outcome” (p. 600). Since the publication of this work, numerous
protective factors have been identified in the resilience research literature, including hope (Horton
& Wallinder, 2001), extraversion (Campbell-Sills et al., 2006), optimistic explanatory style
(Kleiman, Liu, & Riskind, 2013), self-efficacy (Gu & Day, 2007), spirituality (Peres, Moreira-
Almeida, Nasello, & Koenig, 2007), and social support (Brown, 2008). In the context of the
present discussion, it is worth noting that a constellation of these factors, that protect individuals’
from the stressors they encounter, are assessed in the majority of resilience instruments to date
(Windle, Bennett, & Noyes, 2011).

In our review of psychometric issues in resilience research, we explored and discussed
various issues pertaining to the measurement of protective factors in sport performers (Sarkar &
Perhaps most importantly, we argued that the protective factors assessed in current measures of resilience are specific to the context in which they arise and cannot be easily generalized to other populations. Indeed, when considering the implications for sport psychology, we observed that all of the resilience inventories to date have been developed for use in non-sport contexts, such as psychiatric patients (see, e.g., Connor & Davidson, 2003; Madsen & Abell, 2010; Osman et al., 2004). This is particularly problematic for sport psychology researchers since qualities that are meaningful in non-sport participants are unlikely to be entirely relevant to athletic performers (Gucciardi et al., 2011). In light on these arguments, we proposed that as a prerequisite to developing a sport-specific measure of resilience, scholars need to comprehensively review protective factors in the specific context of athletic performance (Sarkar & Fletcher, 2013). Based on our grounded theory of psychological resilience in Olympics champions (Fletcher & Sarkar, 2012), this section will review the five main families of psychological factors (viz. positive personality, motivation, confidence, focus, perceived social support) that the best athletes utilize and optimize to withstand the stressors they encounter.

**Positive Personality**

Personality traits have been defined as “the relatively enduring patterns of thoughts, feelings, and behaviors that reflect the tendency to respond in certain ways under certain circumstances” (Roberts, 2009, p. 140). We found that Olympic gold medalists possessed numerous positive personality characteristics, which influenced the resilience-related mechanisms of challenge appraisal and meta-cognition (Fletcher & Sarkar, 2012). Indeed, certain dispositional qualities have been frequently associated with sporting excellence by influencing athletes’ cognitive processing in a positive fashion (Gould & Maynard, 2009). The main personality traits that have been found to have a desirable impact on athletes’ reactions and responses are: adaptive perfectionism, optimism, competitiveness, hope, and proactivity.

Adaptive perfectionism is a healthy type of perfectionism that is characterized by having high personal standards and striving for excellence but, at the same time, having little concern for mistakes and doubts about actions (see, for a review, Stoeber & Otto, 2006). Studies have found that features of adaptive perfectionism are associated with positive attitudes, processes, and
outcomes, such as mastery and performance approach goals (see Stoeber, Stoll, Pescheck, & Otto, 2008), competitive self-confidence (see Stoeber, Otto, Pescheck, Becker, & Stoll, 2007), self-serving attributions of success and failure (see Stoeber & Becker, 2008), lower levels of anxiety (see Stoeber et al., 2007), and lower levels of burnout (see Hill, Hall, Appleton, & Kozub, 2008).

Optimism has been defined in two main ways: as a trait-like expectancy for successful outcomes (Scheier & Carver, 1985) and as an approach to explaining positive and negative events (Peterson, 2000). Based on the first conception, dispositional optimism has been linked with lower levels of pre-competition anxiety (Wilson, Raglind, & Pritchard, 2002), better emotional adjustment during sport competition (Gaudreau & Blondin, 2004), and task-oriented coping following a performance slump (Grove & Heard, 1997). In line with the second conception, athletes with an optimistic explanatory style (i.e., those who usually explain bad events with unstable, contextual, and external causes) have been found to bounce back after failure (Coffee & Rees, 2011; Coffee, Rees, & Haslam, 2009; Martin-Krumm et al., 2003). To illustrate, using an experimental design, Martin-Krumm et al. (2003) examined the relationship between explanatory style and resilience in a group of recreational basketball players. Following failure feedback in a dribbling task, optimistic participants were found to be more confident, less anxious, and perform better, than pessimistic participants.

Competitiveness has been described as the desire to win in interpersonal situations (Gill & Deeter, 1988). Using the Sport Orientation Questionnaire (Gill & Deeter, 1988), research has shown that a competitive orientation is positively related to outcome self-efficacy (Martin & Gill, 1991) and facilitative interpretations of anxiety (Jones & Swain, 1992). With regards to this latter study, and particularly important in the context of psychological resilience, Jones and Swain (1992) found that competitive athletes reported their anxiety as more facilitative and less debilitating for performance than less competitive athletes. In addition, based on interviews with elite sport performers, competitiveness has recently been found to play an important role in adapting to setbacks (e.g., injuries, performance slumps) that are encountered along the pathway to sporting excellence (MacNamara et al., 2010a; 2010b).
Hope is defined as “a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals)” (Synder et al., 1991, pp. 570-571). High-hope individuals are able to envision alternative routes in the face of goal blockage, develop multiple strategies for overcoming obstacles, and display high levels of dedication and energy in pursuing desirable goals (see Synder, Lehman, Kluck, & Monsson, 2006). Surprisingly, empirical investigations of hope in the sport domain are scarce. Using the Dispositional and State Hope Scales (Snyder et al., 1991; 1996), Curry, Synder, Cook, Ruby, and Rehm (1997) found that sport performers with higher hope performed better academically and athletically after controlling for other possible influences such as self-esteem, mood, and confidence. More recently, Gustfasson, Hassmen, and Podlog (2010) found that feelings of high hope were associated with lower perceptions of burnout among sport performers.

By enabling athletes to develop their strengths, to mobilize effort, and to pursue goal-attainment in the face of adversity, hope appears to be associated with better ability to withstand stress in competitive sport.

Proactivity has been defined as a “dispositional construct that identities differences among people in the extent to which they take action to influence their environments” (Bateman & Crant, 1993, p. 103). People who are proactive identify opportunities and act on them, show initiative, and persevere until they bring about meaningful change. Researchers have found a proactive personality to be an important characteristic in predisposing one to higher levels of achievement in various performance domains, including politics (Deluga, 1998), business (Seibert, Kraimer, & Crant, 2001), and sport (Fletcher & Sarkar, 2012). In one of the few studies in this area, Baker, Côté, and Deakin (2005) recognized this personal disposition in athletes and found that expert triathletes were more proactive in their preparation with a greater emphasis on thoughts related to their performance, whereas non-experts reported more passive thoughts unrelated to performance. In the context of psychological resilience, our research has found that a proactive disposition is an important attribute for withstanding the pressure associated with sport at the highest levels (Fletcher & Sarkar, 2012). Collectively, the research in these five areas suggests that positive personality traits are relevant to sport performers’ resilience by influencing
their reactions and responses in a positive fashion.

Motivation

The topic of motivation addresses the ‘what’ and ‘why’ of human behavior (cf. Deci & Ryan, 2000), and concerns “energy, direction, persistence and equifinality – all aspects of activation and intention” (Ryan & Deci, 2000, p. 69). Optimal levels of motivation are consistently reported as a required psychological attribute for withstanding stress and pressure in competitive sport (see, for a review, Standage, 2012; Treasure, Lemrye, Kuczka, & Standage, 2007). We found that Olympic champions had multiple motives for competing at the highest level including “being the best that you can be”, social recognition, passion for the sport, achieving incremental approach goals, demonstrating competence, and proving their worth to others (Fletcher & Sarkar, 2012). Particularly important in the context of psychological resilience, Olympic gold medalists consciously valued and judged external demands as important and therefore actively chose to perform in challenging sport environments. This process of internalization and integration of regulations and values, whereby one’s goals are brought into line with one’s self identity, is central to self-determination theory (Ryan & Deci, 2000), and appears to be an important psychological asset that protects the best athletes from the potential negative effect of stressors.

Previous research that has examined the motivation of elite athletes has suggested that their behavior is not solely intrinsically motivated, that multiple motives are likely to exist, and that the social conditions defining one’s participation are likely to have a significant effect on motivational processes. Chantal, Guay, Dobreva-Martinova, and Vallerand (1996) examined the motivational profiles of 98 elite Bulgarian athletes from a variety of sports using the Bulgarian version of the Sport Motivation Scale (Pelletier et al., 1995). They found that, in comparison with less successful athletes, the best performing athletes exhibited higher levels of non-self-determined types of motivation. Specifically, title holders and medal winners more frequently reported external rewards, feelings of obligation, and pressure as their primary sources of motivation. Interestingly, the authors suggested that the highly competitive sport structure that prevailed in Bulgaria at the time may have influenced the athletes’ motivation in that the sport
structure strongly emphasized winning at all costs. To provide a greater insight into the motivation of elite sport performers in less controlling social conditions, Mallet and Hanrahan (2004) explored the motivational processes of elite track and field athletes in Australia using semi-structured interviews. They found that these individuals were characterized by multiple motivations that were both self-determining and non-self determining in nature. Although the interview data revealed excitement, enjoyment, and a sense of relatedness with fellow athletes as important motives, less self-determined reasons also emerged. Indeed, some of the athletes identified beating opponents, money, and social recognition as motives for competing at the highest level. The results of Mallett and Hanrahan’s study, however, suggest that elite sport performers appear to be able to internalize and integrate more self-determined forms of extrinsic motivation. That is, they are gradually able to transform external regulations into self-regulation. More specifically, and particularly important in the context of psychological resilience, they find ways to evaluate and bring into congruence the environmental demands of the sport with their personally held values and beliefs.

A fundamental tenet of self-determination theory is that individuals engaged in an activity by choice will experience better consequences than those whose participation is less autonomous (see, Ryan & Deci, 2000). Indeed, in sport settings, autonomous motivation has been shown to predict adaptive outcomes, such as better well-being and vitality (Gagne, Ryan, & Bargmann, 2003), higher levels of flow (Kowal & Fortier, 1999), greater reported effort, interest, and persistence (Pelletier, Fortier, Vallerand, & Briere, 2001), and positive sportsmanship orientations (Ntoumanis & Standage, 2009). In the case of elite sport, however, a great deal of training can be uninteresting and, although essential to improving performance, extremely repetitive and monotonous. Nonetheless, research has demonstrated that even the most tedious aspects of training can be transcended through the use of interest-enhancing strategies that assist an individual’s internalization of self-determined motivation regulations (Green-Demers, Pelletier, Stewart, & Gushue, 1998). The preceding research findings suggest that optimal motivation is an important asset for psychological resilience in sport performers. Specifically, possessing autonomous values and beliefs appear to have a positive influence on athletes’ thought processes.
Confidence

Confidence has been identified as a positive influence for withstanding stress and pressure in competitive sport (Galli & Vealey, 2008; Gucciardi et al., 2011). In an athletic context, it is described as the degree of certainty one possesses about their ability to be successful in sport (Vealey, 1986). Confidence was deemed to be a particularly important factor underpinning the resilience-stress-performance relationship in Olympic champions (Fletcher & Sarkar, 2012). Various sources of confidence were salient to the world’s best athletes, including multifaceted preparation, experience, self-awareness, visualization, coaching, and teammates.

To explore this desirable construct in the specific context of athletic performance, Vealey, Hayashi, Garner-Holman, and Giacobbi (1998) examined the sources of sport confidence in high school and collegiate athletes. Using factor analysis techniques to develop a measure of sport confidence, they identified nine separate sources of sport confidence that grouped into three domains: achievement (mastery and demonstration of ability), self-regulation (physical/mental preparation and physical self-presentation), and social climate (sources of social support, coaches leadership, vicarious experience, environmental comfort, and situational favorableness). Building on this study in an elite sample of sport performers, Hays, Maynard, Thomas, and Bawden (2007) explored the sources and types of confidence salient to athletes who had medalled in at least one major championship (i.e., Olympic Games, World Championship and/or World Cup) using qualitative methods. Nine sources of confidence were identified: preparation, performance accomplishments, coaching, innate factors, social support, experience, competitive advantage, self-awareness, and trust. Analysis also revealed six types of sport confidence: skill execution, achievement, physical factors, psychological factors, superiority to opposition, and tactical awareness. Following on from this investigation, Hays, Thomas, Maynard, and Bawden (2009) examined the role of confidence in relation to the cognitive, affective and behavioral responses it elicits within the organizational subculture of world class sport. Qualitative analysis indicated that high sport confidence facilitated performance through its positive effect on athletes’ thoughts, feelings, and behaviors. Specifically, high sport confidence was found to be synonymous with effective cognitions (e.g., focus on the task at hand), positive affect (e.g., enjoyment), and
effective behaviors (e.g., confident body language).

In a review of this area, Vealey and Chase (2008) noted that solely possessing a general

sport confidence may not be enough to perform successfully; rather, they argued that athletes

need to possess robust confidence to overcome possible setbacks. Indeed, it has been suggested

that the robust nature of confidence (i.e., the ability to maintain belief in the face of disconfirming

experiences) may contribute to success over and above the contribution of the level of general

sport confidence (where high levels are perceived as sufficient) (cf. Bull, Shambrook, James, &

Brooks, 2005). In the first study to specifically explore this area, Thomas, Lane, and Kingston

(2011) defined and contextualized the characteristics of robust sport confidence based on semi-

structured interviews with elite sport performers. Robust sport confidence was defined as “a set of

enduring, yet malleable positive beliefs that protect against the ongoing psychological and

environmental challenges associated with competitive sport” (p. 194). Qualitative data analysis

procedures also resulted in the identification of six characteristics of robust sport confidence:

multidimensional, malleable, durable, strength of belief, developed, and protective. This latter

feature is particularly important in the context of psychological resilience since it indicates that

robust sport confidence has the potential to act as a buffer against stressors. Building on this

construct using quantitative methods, Beattie, Hardy, Savage, Woodman, and Callow (2011)
developed and validated a Trait Robustness of Self-Confidence Inventory for use in competitive

sport settings. The single-factor eight-item inventory, including questions such as “my self-

certainty goes up and down a lot” and “if I perform poorly, my confidence is not poorly

affected”, was consistent across both male and female athletes. Regarding the predictive validity

of the inventory, high robust confidence scores were associated with more stable self-confidence

levels prior to competition, and athletes with high levels of robust confidence managed to

maintain higher state self-confidence following disconfirming experiences than those with low

robust confidence levels. In sum, both general and robust confidence are important psychological

factors for withstanding stress and pressure in competitive sport. More specifically in the context

of psychological resilience, general sport confidence appears to have a desirable impact on

athletes’ reactions and responses, and robust sport confidence seems to be particularly influential
in protecting athletes from the potential negative effect of stressors.

Focus

Focus, or concentration, refers to a person’s ability to exert deliberate mental effort on what is most important in any given situation (Moran, 1996). We found that the ability to focus was an important aspect of resilience for the world’s best athletes (Fletcher & Sarkar, 2012). Specifically, Olympic champions were able to focus on relevant cues in the environment, maintain focus over long time periods, remain aware of the situation around them, and alter the scope of their attention as demanded by the situation.

Two main lines of inquiry illustrate the importance of focus and concentration. The first source of evidence comes from descriptive research exploring the psychological characteristics associated with athletes’ ability to withstand – and thrive on – pressure when preparing and performing at major sporting events (see, e.g., Gould & Maynard, 2009). Indeed, numerous aspects of focus and concentration appear to be important for dealing with pressure and adversity in various competitive sport contexts (see, e.g., Bull et al., 2005; Gucciardi, Gordon, & Dimmock, 2008; Jones, Hanton, Connaughton, 2002; 2007). Specifically, elite athletes are able to withstand the pressure associated with sport at the highest level by: remaining fully focused on the task at hand in the face of directions, switching a sport focus on and off as required, refusing to be swayed by short-term goals (e.g., finances) that will jeopardize the achievement of long-term goals, and remaining focused on processes and not solely outcomes. More recently, researchers have found that having an appropriate attentional focus, and focusing on task relevant cues are fundamental mental qualities that help young elite athletes adapt to setbacks and effectively negotiate key transitions encountered along the pathway to excellence (Holland, Woodcock, Cumming, & Duda, 2010; MacNamara & Collins, 2010).

The second source of evidence that demonstrates the importance of focus and concentration has emerged from experimental research. For example, using quantitative methods, Mallett and Hanrahan (1997) found that sprinters who had been trained to use race plans, that deliberately involved focusing on the task at hand, ran faster than those in baseline (control) conditions. Indeed, the authors contended that the improvements observed were due to the
employment of a specific cognitive strategy that focused attention on task-relevant information associated with sprint performance. Similarly, research has shown that the use of associative concentration techniques, in which athletes are trained to concentrate on bodily signals such as heart beat and kinesthetic sensations, are effective cognitive strategies that enable faster performances in running (Masters & Ogles, 1998; Morgan, 2000) and swimming (Couture, Jerome, & Tihanyi, 1999). The preceding lines of evidence, therefore, converge on the conclusion that the ability to focus and concentrate appropriately is vital for psychological resilience in sport performers since it has a positive influence on athletes’ cognitive processing under pressure.

**Perceived Social Support**

In an athletic context, perceived social support refers to “one’s potential access to social support and is a support recipient’s subjective judgment that friends, team-mates, and coaches would provide assistance if needed” (Freeman, Coffee, & Rees, 2011, p. 54). We found that Olympic champions were protected from the pressures of elite sport by perceiving that high quality social support was available to them, including support from family, coaches, team-mates, and support staff (Fletcher & Sarkar, 2012). Results indicated that the perception of available support from a variety of social agents underpinned the resilience-stress-performance relationship in the world’s best athletes. This finding shows the stress-buffering effects of perceived social support and suggests that it is an important aspect of resilience in elite sport.

In order to gain a better understanding of the social support experiences of sport performers, Rees and Hardy (2000) conducted interviews with high-level athletes regarding their experiences of social support. The results highlighted the multidimensional nature of social support, revealing four primary dimensions: emotional, esteem, informational, and tangible. Emotional support refers to others being there for comfort and security, leading to a person feeling loved and cared for. Esteem support refers to others bolstering a person’s sense of competence or self-esteem. Informational support refers to others providing advice or guidance, and tangible support refers to others providing concrete instrumental assistance. In line with these definitions, Freeman et al. (2011) recently developed and validated the Perceived Available Support in Sport Questionnaire (PASS-Q) using confirmatory factor analysis. Specifically, by
deriving items from statements made by the high-level athletes in Rees and Hardy’s study, they found evidence for a four dimension factor structure in two independent samples of athletes. Regarding the structural and predictive validity of the questionnaire, the findings demonstrated that higher levels of perceived emotional, esteem, informational, and tangible support were associated with higher levels of self-confidence and lower levels of burnout.

The four primary dimensions of support have been used to frame research on the stress-buffering effects of social support (see, e.g., Freeman & Rees, 2009; Freeman & Rees, 2010). The stress-buffering hypothesis suggests that high levels of perceived support protect an individual from the potential negative effect of stressors. Specifically, perceived support is hypothesized to intervene when a stressor is encountered, leading it to be appraised as less stressful (Cohen & Wills, 1985). In a sample of university athletes, Freeman and Rees (2010) examined the stress-buffering effects of social support on self-confidence using moderated hierarchical regression analyses. The findings showed that high perceived emotional, esteem and informational support from team-mates buffered the potential detrimental effect of performance-related stressors on self-confidence. Specifically, at low and moderate levels of support, stressors negatively affected self-confidence. However, at high levels of support, stressors did not significantly predict self-confidence. To better understand the potential mechanisms through which perceived support influences performance, Freeman and Rees (2009) examined the relationship between perceptions of support availability and objective performance in a competitive sport environment using observed variable path analysis. Findings revealed that the beneficial effects of perceived support were primarily attributable to esteem support. Perhaps more importantly in the context of psychological resilience, individuals with high levels of available esteem support appraised competitive situations as more of a challenge and less as a threat. In turn, challenge appraisals were associated with better performance. Collectively, the research in this area suggests that different types of perceived support are relevant to sport performers and that the notion of stress buffering may help to better elucidate the shielding effect of perceived available support.

In summary, this section has reviewed the five main psychological factors (viz. positive personality, motivation, confidence, focus, perceived social support) that protect athletes from the
potential negative effect of stressors. By exploiting the empirical knowledge base in these areas, it is anticipated that researchers will gain a deeper profundity of the numerous protective factors that sport performers utilize and optimize to withstand the stressors they encounter. From an applied perspective, individuals operating in competitive sport should identify and monitor the psychological characteristics outlined in this review that athletes need to develop to exhibit resilience. Practitioners, for example, should help aspiring sport performers’ to be proactive in their sporting development, be sensitive to different types of motivation, build confidence from multiple sources rather than focusing on one particular source, focus on what they can control and on processes, and take specific steps to obtain the support that they need.

Future Research Directions

There are a number of directions that future researchers can explore to advance knowledge of psychological resilience in sport performers. Regarding the stressors that athletes encounter, although researchers have extensive information about the different types of environmental demands, there is a limited understanding about the interface between and interactive impact of stressors. It would be beneficial, for example, to investigate the relationship between competitive, organizational and personal stressors and examine their combined effect on athletes’ reactions and responses (cf. Brough & O’Driscoll, 2005). In the context of psychological resilience, it is important to consider the suitability of appropriately exposing athletes to stressors and encouraging them to actively engage with challenging situations that present opportunities to raise their performance level. Indeed, in our study of Olympic champions “most of the participants argued that if they had not experienced certain types of stressors at specific times, including highly demanding adversities such as parental divorce, serious illness, and career-threatening injuries, they would not have won their gold medals” (Fletcher & Sarkar, 2012, p. 672). As suggested in this observation, it will also be interesting to explore the extent to which significant adversities are instrumental in the resilience-high achievement relationship. However, before addressing these questions, a more fundamental avenue for research is better understanding when a stressor (i.e., an environmental demand) becomes an adversity (i.e, a typically negative event) for sport performers. In the extant sport psychology literature, stressors
are often assumed to be adversities for athletes, including performance slumps, coach conflicts, and career transitions (see, e.g., Galli & Vealey, 2008; Tamminen, Holt, & Neely, 2013). However, based on the definition of an adversity, a stressor only represents an adversity if the problems displayed by an individual are typical of those exhibited in normative populations (Luthar et al., 2000). Exposure to parental divorce, for example, constitutes an adversity since children experiencing it are two or three times more likely to exhibit psychological and behavioral problems than those from non-divorced families (Hetherington & Elmore, 2003). This type of epidemiological evidence is required in relation to the stressors encountered by sport performers to ascertain whether they do indeed represent actual adversities.

Turning to the protective factors that help athletes withstand stressors, although there is a relatively large knowledge base on the main protective factors (i.e., positive personality, motivation, confidence, focus, perceived social support), there is a dearth of information about whether a matching effect exists between protective factors and stressors; that is whether particular protective factors match best with certain stressors. Furthermore, building on our assertion that “individuals operating in elite sport should . . . intervene to attain the optimum levels of, and balance between, these factors” (Fletcher & Sarkar, 2012, p. 676), research is needed to determine the best combination of protective factors for different sport types and skill levels. This type of research, where the relative importance of each factor is determined and compared, will be best realized once a sport-specific measure of resilience is developed. In terms of better understanding this area, it is worth noting that researchers have distinguished between protective and promotive factors (see, e.g., Sameroff, Gutman, & Peck, 2003). Specifically, they have argued that, while the former implies shielding or insulation from the potential negative effects of an event, there are psychological-related phenomena that impute an independent salutary value by yielding benefits such as frequent success experiences. Sport psychology researchers need to examine the aforementioned factors at a more fine-grained level to determine if they moderate associations between stressors and adaptive outcomes (i.e., protective) or if they have a direct association with adaptive outcomes (i.e., promotive) (cf. Laird, Marks, & Marrero, 2011).
Regarding our grounded theory of psychological resilience, it is open to extension and can be tested and modified to accommodate new insights (Fletcher & Sarkar, 2012). For example, although our theory focuses on the relationship between psychological resilience and optimal sport performance, future research needs to elucidate other important outcomes of the resilience process (e.g., well-being). In terms of the design of the model, we acknowledged that a potential limitation concerns the validity of the linear stage framework evident within its structure (Fletcher & Sarkar, 2012). Recent evidence from cognitive neuroscience indicates that sequential, unitary approaches are rather simplistic and that parallel, multiple processes offer a more ecologically valid conceptualization of psychological resilience (see, e.g., Feder, Hestler, & Charney, 2009). Another important consideration is the sociocultural context in which an individual operates. Our model was predominantly focused on psychological processes underpinning the resilience-performance relationship and future resilience researchers need to explore the sociocultural context within which this occurs (cf. Ungar, 2008). We acknowledge that our model of sport resilience is relatively new and, hence, is currently untested. To determine the utility of our model, future studies should use it to generate research questions and hypotheses about resilience in sport. For example, what psychological factors lead to positive outcomes either directly or indirectly via their influence on challenge appraisal and meta-cognitions? Since our model was derived from data collected from a specific group of participants, such questions might be best answered through large scale quantitative studies, using statistical techniques such as structural equation modeling, to predict resilience across a wider range of athletes and sport settings.

This paper has provided a platform for developing a sport-specific measure of psychological resilience (cf. Sarkar & Fletcher, 2013). Due to the conceptually distinct nature of stressors and protective factors, researchers will need to assess these concepts and validate their associated scales separately from the outset. In terms of measuring the stressors that athletes’ encounter, when generating a pool of questionnaire items, researchers need to consider the variety of demands associated with competitive performance, the sport organization within which the athletes operate, and personal “nonsporting” life events. To gain a more comprehensive picture of
stressors, sport psychology researchers should consider the inclusion of both significant life
events and ongoing daily pressures in an initial pool of items. In terms of measuring the factors
that protect athletes from negative consequences, researchers will need to assess the protective
factors relating to a positive personality, motivation, confidence, focus, and perceived social
support. More specifically, when generating a pool of items, questions should focus on aspects of
athletes’ desirable cognitive tendencies, autonomous values and beliefs, general and robust sport
confidence, ability to focus appropriately, and perceptions of available social support.

Concluding Remarks

Psychological resilience is important in sport since athletes must utilize and optimize a
constellation of protective factors to withstand the distinct stressors that they encounter (Fletcher
& Sarkar, 2012). To help researchers gain a better appreciation of the existing knowledge base in
key resilience-related areas, in this paper we reviewed stressors and protective factors in the
specific context of athletic performance. The stressors encountered by sport performers can be
classified under the following three categories and fourteen subcategories: competitive
performance (preparation, injuries, pressure, underperforming, expectations, self-presentation,
and rivalry), the sport organization within which the athletes operate (leadership and personal
issues, cultural and team issues, logistical and environmental issues, and performance and
personal issues), and personal “nonsporting” life events (work-life interface, family issues, and
the death of a significant other). In this paper we also synthesized the extant literature pertaining
to the five main psychological factors (viz. positive personality, motivation, confidence, focus,
perceived social support) that protect athletes from the potential negative effect of stressors. It is
hoped that this review will provide a rigorous and robust foundation for the development of a
sport-specific measure of resilience, and subsequently help researchers examine the interplay
between stressors and protective factors, which will, in turn, focus the analytical lens on the
processes underlying psychological resilience in athletes.
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Figure 1. A grounded theory of psychological resilience and optimal sport performance (reproduced with permission from Fletcher and Sarkar, 2012).