2 Psychological antecedents to sport injury

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Personality

In their original model, Anderson and Williams (1988) hypothesised that certain positive personality traits (such as hardiness) enabled athletes to view athletic situations as challenging rather than threatening, resulting in a lower stress response and subsequently lower injury risk. Moreover, it was hypothesised that negative personality traits (for example, competitive trait anxiety) will increase stress reactivity. Based on the knowledge available, Andersen and Williams (1988) proposed five specific personality variables that influence stress reactivity: 1) hardiness; 2) locus of control (who or what is responsible for what happens); 3) sense of coherence (a belief that the world is predictable and meaningful); 4) competitive trait anxiety; and 5) achievement motivation (the need to meet goals and experience a sense of achievement).

Across 45 studies in our review examining personality, we documented more than 20 different personality characteristics. Approximately 69 per cent of those studies reported at least some significant relationship between personality and injury outcome. Personality characteristics that have been studied in the stress and injury literature included anger, depression, anxiety (that is, general, competitive/sport anxiety, sport injury anxiety), mood, athletic identity, self-esteem, sport confidence, self-efficacy (both general and physical), physical self-perception, locus of control, mental toughness, optimism, hardiness, motivation (that is, athlete goal orientation), narcissism, neurosis, perceived risk taking, sensation seeking, social desirability, type A (anger, hostility, and so on), exercise dependence, competitiveness and psychological wellbeing. While the breadth of this work is impressive, any synthesis of the work is difficult to draw, as replication studies are rare. Nevertheless, three personality characteristics have received more attention than others in the literature: anxiety, locus of control and mental/emotional states.

Anxiety

Drawing from the literature, anxiety (competitive anxiety in particular) is by far the most frequently examined personality variable seen as affecting injury onset (Blackwell and McCullagh, 1990; Ford, Eklund and Gordon, 2000; Hanson, McCullagh and Tonymon, 1992; Kolt and Kirkby, 1994; Lavallee and Flint, 1996; Petrie, 1993; Sibold, 2004). Competitive anxiety has been defined as an athlete’s tendency to perceive competitive situations as threatening and to respond to these situations with heightened anxiety or feelings of fear and tension (Martens, Vealey and Burton, 1990). Athletes
exhibiting competitive anxiety might report racing thoughts, an inability to focus, trouble falling asleep the night before competition and inability to eat anything leading up to a competition, among other symptoms. Much of the research appears to suggest that athletes who display increased levels of competitive anxiety are more likely to incur a sport injury.

Locus of control
Locus of control refers to an athlete’s perception of who or what is responsible for what happens to them (Kolt and Kirkby, 1996). In our review, nine studies examined locus of control (Dahlhauser and Thomas, 1979; Ekenman, Hassmen, Koivula, Roll and Felliinder-Tsai, 2001; Hanson et al., 1992; Kerr and Minden, 1988; Kolt and Kirkby, 1994; Pargman and Lunt, 1989; Passer and Seese, 1983; Plante and Booth, 1997; Tyler, 1986). However, only two studies found relationships indicating that a higher internal locus of control was associated with a greater number of injuries (Kolt and Kirkby, 1994; Plante and Booth, 1997).

Mental and emotional states
A number of mental and emotional states have also been significantly associated with injury onset (Junge, 2000). Thus far, the most commonly examined mental and emotional states include mood (Amato, 1995; Falkstein, 1999; Galambos, Terry, Moyle, Locke and Lane, 2005; Lavallee and Flint, 1996; Meyers, LeUnes, Elledge and Sterling, 1992; Rozen and de L Horne, 2007; van Mechelen et al., 1996), anger (Dvorak et al., 2000; Plante and Booth, 1997; Thompson and Morris, 1994) and type A (Ekenman et al., 2001; Fields, Delaney and Hinkle, 1990; Schafer and Mckenna, 1985). Based on the findings, athletes who report negative mood states (for example, anger) appear to be more likely to become injured (Dvorak et al., 2000; Ekenman et al., 2001; Fields et al., 1990; Schafer and McKenna, 1985; Thompson and Morris, 1994) or sustain more severe injuries (Lavallee and Flint, 1996). Also, athletes with higher negative mood or overall mood disturbances (such as tension, anxiety, depression) appear more likely to become injured (Amato, 1995; Galambos et al., 2005; Lavallee and Flint, 1996; van Mechelen et al., 1996). Yet, desirable mood states have also been positively associated with injury, such as vigour (energy; Rozen and de L Horne, 2007) and low anger (Plante and Booth, 1997).