

# Psychosocial Factors in Sports Injury Rehabilitation and Return to Play



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## KEYWORDS

- Cognitions • Social support • Intervention plan • Fear of injury • Denial • Distress • Pain

## KEY POINTS

- Research on psychological factors has found that cognitive appraisals, emotional reactions, and behavioral responses to injury influence the quality and nature of athletes' rehabilitation.
- The 2 most influential social factors influencing athletes' injury rehabilitation are the nature of patient-practitioner interactions and the effectiveness of social support provisions.
- Taking into account the psychological nature of rehabilitation as well as the plethora of demands confronting returning athletes, the need for evaluation of psychological readiness to return is imperative.
- Injury is an emotionally disruptive experience for anyone, but perhaps more so for athletes, especially those for whom sport is central to lifestyle and personal identity.
- There is an extensive array of psychological factors, positive and negative, that play into the recovery process for better or worse.

## PART 1: THE RESEARCH LITERATURE

### *Impact of Psychological Factors on Rehabilitation*

Research on psychological factors has found that cognitive appraisals, emotional reactions, and behavioral responses to injury influence the quality and nature of athletes' rehabilitation. Cognitive, emotional, and behavioral factors influencing athletes' rehabilitation are discussed separately in this article.

#### **Cognitions**

A range of cognitions has been identified that influence athletes' emotions and behaviors in rehabilitation settings, including attributions for injury occurrence,

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self-perceptions following injury, cognitively based coping strategies, and perceived injury benefits. Self-perceptions of esteem and worth have also been shown to diminish following injury in some studies (eg, Leddy and colleagues,<sup>1</sup> 1994) but not in others (eg, Smith and colleagues,<sup>2</sup> 1993). Cognitive appraisals of the potential benefits of injury have been described, including opportunities to develop nonsport interests, viewing injury as a test of character, enhanced appreciation for sport, greater resilience, and enhanced knowledge of the body and technical mastery.<sup>3,4</sup> Quinn and Fallon<sup>5</sup> (1999) found differences in sport self-confidence over the course of rehabilitation, with confidence levels high at the onset of injury, declining during rehabilitation, and increasing with recovery. However, there is little other study of change in appraisal over time and how this is related to recovery.

### **Emotions**

Athletes' emotional reactions to injury include feelings of loss, denial, frustration, anger, and depression (eg, Tracey,<sup>6</sup> 2003). Positive emotions such as happiness, relief, and excitement have been reported as well.<sup>7</sup> The attainment of rehabilitation goals and the prospect of recovery may engender a host of positive emotional responses throughout the course of rehabilitation. It seems that these responses are influenced by a wide array of personal factors (eg, athletic identity, previous injury experience, injury severity, injury type, current injury status) and situational factors (eg, life stress, social support satisfaction, timing of the injury).<sup>2,8-16</sup>

Emotions typically fluctuate in response to rehabilitation progress and/or setbacks (see Brewer,<sup>17</sup> 2007, for a review). Emotional states typically move from negative to positive as athletes progress through their rehabilitation and a return to competition draws nearer. Studies have shown an increase in negative affect as the return to sport approaches, possibly because of anxieties over reinjury, the uncertainty of what lies ahead, as well as concerns that postinjury goals may be unrealized.<sup>18</sup> Return to sport may alternatively be viewed as a functional reality check challenging denial that may have falsely bolstered athlete expectation. In summary, individual differences in emotional response over the course of rehabilitation are varied, complex, and fluctuate with rehabilitation progress and setbacks.

### **Behaviors**

The extent to which athletes use various coping skills (eg, goal setting, imagery, seeking out social support) and adhere to rehabilitation have received the greatest amount of research attention. Personal factors linked to adherence including pain tolerance,<sup>19</sup> self-motivation,<sup>20</sup> tough-mindedness,<sup>21</sup> perceived injury severity,<sup>22</sup> internal health locus of control,<sup>23</sup> self-efficacy,<sup>24,25</sup> and self-esteem<sup>26</sup> have all been positively associated with rehabilitation adherence, whereas mood disturbance<sup>9</sup> and fear of reinjury<sup>27</sup> are negatively associated. Demographic factors such as age have also been found to influence rehabilitation adherence. For example, Brewer and colleagues<sup>28</sup> found that age moderated the relationship between psychological factors and 2 kinds of adherence: home exercise completion and home cryotherapy completion. Older patients were more adherent when they were self-motivated and perceived high levels of social support, whereas younger patients were more adherent when they were highly invested in the athlete role as a source of self-worth.<sup>28</sup>

Adherence has been positively associated with enhanced clinical outcomes such as proprioception, range of motion, joint/ligament stability, muscular strength and endurance, as well as reductions in the subsequent risk of reinjury.<sup>9,17,29-31</sup> However, nonsignificant<sup>32</sup> and negative relationships<sup>31,32</sup> have also been found. The negative relationship in particular is likely a function of methodological problems. Although it

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